

CONTAMINANT SOURCE AREA INVESTIGATION

Valley Pike VOC Site
Riverside, Montgomery County, Ohio
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1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) completed an investigation of potential source areas of volatile organic compound (VOC) contamination in the vicinity of the Valley Pike VOC Site in Riverside, Montgomery County, Ohio (the site). The work was completed for U.S. Environmental Protection Agency (EPA) Region 5 under the Superfund Technical Assistance and Response Team (START) IV contract. Project activities, including acquisition of site access agreements, were coordinated by the EPA On-scene Coordinator (OSC) Steven Renninger. EPA's Emergency and Rapid Response Services (ERRS) contractor, Environmental Quality Management (EQM), provided logistical and technical support for various components of the project.

The primary objective of the investigation was to identify possible sources or source areas of VOC contamination impacting groundwater and subsequently indoor air quality via vapor intrusion (VI) in the vicinity of Valley Pike. The investigation included installing and sampling sub-slab vapor probes; advancing soil borings with collection and analysis of soil and groundwater samples; installing, surveying, and sampling groundwater monitoring wells; and measuring groundwater elevations. The investigation was completed between September and October 2014.

This report summarizes activities completed, data acquired, and results of the investigation. This report includes the following sections:

- 1.0 Introduction
- 2.0 Site and Project Background
- 3.0 Source Area Investigation Activities
- 4.0 Sample Analysis and Quality Assurance (QA)
- 5.0 Summary of Field Observations and Analytical Data
- 6.0 Investigation Summary and Conclusions
- 7.0 References

Figures supporting the report appear immediately following the text. Tables supporting the report appear immediately following the figures. Additional information regarding pertinent site features; boring logs and well construction diagrams; and analytical data validation reports appear in Appendices A through D.

2.0 SITE AND PROJECT BACKGROUND

This section describes the location, features, and setting of the site; identifies potential source areas found to date; and recounts past investigations of the site.

2.1 SITE DESCRIPTION

The Valley Pike VOC site is an area of groundwater contamination within the City of Riverside, Montgomery County, Ohio (Figure 1). The area is primarily north of Valley Pike (also known as Valley Street), and approximately 0.5 mile north of the Mad River, which flows from northeast to southwest through the area. The area of contamination is bordered on the north by Forest Home Avenue, south by Valley Pike, and west by Sagamore Avenue (Figure 1). The source of contamination is believed to be located within a mixed commercial and industrial area located east of Hypathia Avenue, west of Harshman Road, south of Transportation Drive and north of Valley Pike; this area generally comprised the study area for the source area investigation that is the subject of this report (Figures 1 and 2).

The contamination consists of chlorinated VOCs—primarily tetrachloroethene (PCE) and lesser amounts of trichloroethene (TCE). The contamination has migrated beneath a residential neighborhood extending westward from Hypathia Avenue where vapor intrusion (VI) from the PCE- and TCE-contaminated, shallow groundwater plume has been documented (United States Environmental Protection Agency [EPA] 2014). VI occurs when volatile chemicals are released onto the ground or into groundwater, migrate, volatilize, and infiltrate a building. Migration typically occurs via gravity to either a low-permeability layer (clays or silts) or groundwater, and then proceeds laterally via groundwater flow or preferential pathways (utility lines) to beneath a building. Once beneath the building, VOC vapors infiltrate the building through cracks in the foundation, cracks in a concrete slab, or directly through a dirt floor. VOCs such as PCE and TCE volatilize under normal atmospheric conditions.

Figure 3 shows locations of geologic cross sections in the site vicinity, and these cross sections are depicted on Figures 4 and 5. Subsurface materials in the area consist of highly permeable sand and gravel with interbedded clay and silt layers. Groundwater contamination is present primarily within, and moving through, the sand and gravel layers. Depth to groundwater in the area is approximately 19 to 26 feet below ground surface (bgs). The prevailing natural groundwater flow direction is southwest, roughly parallel to Valley Pike and the Mad River Valley, which is part of a highly productive sole-source aquifer system in the region. Groundwater contamination appears to have migrated primarily southwestward through the site area.

Figures 2 and 3 depict the various structures, roads, and businesses in the area. The groundwater contaminant plume appears to originate within a mixed industrial and commercial area west of Harshman Road and east of the aforementioned residential neighborhood. Businesses along Harshman Road include retail operations, restaurants, and gas stations. Moving west, the area includes a trucking/transfer facility (Old Dominion Freight [ODF]) along Transportation Drive, a storage rental facility (Rockcastle Storage), a church, and a small retail/office center. West of the church and Rockcastle Storage is an industrial facility (Mullins Rubber Products [MRP]), and farther west is an automotive repair shop (Paul's Garage). Another trucking/transfer facility (YRC Freight) is west of Paul's Garage. Moving southwest, the plume then passes beneath an area that transitions to mostly single-family residential use,

along and west of Hypathia Avenue. The neighborhood is approximately 900 feet southwest of the MRP facility. Data acquired by the Ohio Environmental Protection Agency (Ohio EPA) and EPA have indicated that VI from the groundwater VOC contamination is a concern in structures above the plume area, including residences (EPA 2014).

Local terrain is flat at elevations ranging from approximately 780 to 783 feet above mean sea level (amsl). The area is served by a public water system (from a source outside the area of the plume), and sanitary and storm sewer systems. However, stormwater on many individual properties is managed by in-site infiltration, in some cases through use of constructed dry wells. Ohio Department of Natural Resources (ODNR) logs also identify private water supply wells throughout the area; local municipal ordinances forbid use of these as potable water sources, although some local residents reportedly use water from these wells for non-potable purposes including watering lawns and other activities. (Ohio EPA 2012, 2013).

2.2 SITE HISTORY, OPERATIONS, AND PAST INVESTIGATIONS

The following sections recount the site history and briefly summarize previous investigations completed at the site.

2.2.1 Site History and Operations

The area in the site vicinity underwent extensive development between 1900 and the 1950s. Primary uses of land in the area transitioned gradually from agricultural to a mixture of primarily commercial and residential. Several reported former auto garages and gas stations, and one possible dry cleaner, formerly operated in the area. However, data acquired during prior investigations (or the 2014 Source Area Investigation) have not indicated that the contaminant plume is present within areas associated with these former operations, and thus these former operations are not suspected currently to have been sources of PCE or TCE.

Within the site vicinity, VOC groundwater contamination has been detected at three non-residential properties. Relatively high concentrations have been detected in samples collected at MRP, at adjacent portions of the Paul's Garage property (directly southwest of MRP), and downgradient (regarding groundwater flow) of MRP. Low concentrations of PCE have been detected in one well on the Rockcastle Storage property, northeast and upgradient of MRP, within an area close to MRP's production well area. Each of these areas and results from sampling at each are discussed in more detail throughout this report. Properties where VOC contamination has been detected are discussed as follows:

MRP

Data acquired from sampling at the MRP property have indicated presence of both PCE and TCE in soil, groundwater, and sub-slab vapor. Reportedly, MRP historically used chlorinated solvents in its operations. Information provided by MRP states that MRP has historically used and currently uses TCE, and has not used PCE in its processes (Dinsmore and Shohl, LLP 2013).

MRP began operations in 1942 as the Mullins Tire and Rubber Company. The primary operation at that time was retreading used tires. In 1955, the business expanded from tires into molding different types of rubber products. Beginning in the mid-1960s, the company has

focused on molding heavy-duty truck trailer suspension bushings. The MRP property is owned by Mullins Land Company, Inc. (Ohio EPA 2012, 2013).

Historical aerial photographs indicate that site operations began at the approximate center of the area within the present property boundaries. Two small barns were present along what is now the western property line. As the business expanded, the buildings housing site operations were rebuilt and expanded generally northward and westward. Today, most of the northern two-thirds of the property is covered by structures. On the west side of the property, these structures extend to within 6 feet of the fence that separates MRP from the neighboring Paul's Garage property. Most of the southern portion of the MRP property, between the plant operations buildings and Valley Pike, is used as a parking area (Ohio EPA 2012).

MRP is connected to the municipal sanitary sewer system; however, a septic system located between the front of the building and Valley Pike was used prior to the sewer connection (see Appendix A).

As part of MRP's current manufacturing process, metal parts are degreased with chlorinated solvent in two vapor degreasers, prior to bonding with rubber parts. The vapor degreasers are in the northwest part of the manufacturing area, near the north end of the building. According to MRP, the process uses, and has historically used, TCE since 1968 (Dinsmore and Shohl, LLP, 2013). Non-contact cooling water from degreasing tanks associated with the manufacturing process previously discharged into the series of "dry" wells on the northern portion of the MRP facility (see below for descriptions, and Appendix A for a log of one such well). In 2012, MRP installed a closed loop chiller system that eliminated the need to discharge cooling water to the injection wells. Until the chiller system was operational, the wells were used to return the cooling water to the shallow sand and gravel formation (Ohio EPA 2012, 2013).

Currently on the MRP property are the main building (including the series of attached expansions completed over the past 40+ years), several storage sheds, and four production wells. The active deep production well, at the east/central part of the property, formerly produced about 300 gallons per minute for 8 hours a day. Currently, the production well is used only infrequently to "top off" the closed loop system. Two deep production wells are on stand-by. A fourth shallow well (50 feet deep) is damaged and is no longer used but remains in place. All production wells are on the east side of the MRP facility (Ohio EPA 2012, 2013).

MRP reportedly utilized a total of seven wells (referred to as "dry" wells) for management of non-contact cooling water, storm drainage, and boiler blow-down water. These are underground structures that formerly disposed of water used in facility operations by discharging it into the ground, where it merged with local groundwater (Ohio EPA 2012, 2013). Although all of these structures are referred to by MRP as "dry wells," a log for one of these wells (included in Appendix A and available at ODNR's website) indicates that this well extended to 50 feet bgs, through an upper clay/glacial till layer and into the sand and gravel aquifer below, and thus discharged water directly into the local aquifer (ODNR 1972). This type of well (commonly referred to as an injection well) differs in construction from other wells referred to as "dry" wells in the site area that are used solely for stormwater management, and which collect and allow surface drainage to infiltrate directly into the shallow subsurface through the vadose zone. Some of the MRP injection wells were reportedly interconnected. The MRP wells were considered Class V injection wells under the Ohio Underground Injection Control (UIC) Program. Permits were not issued, but the wells were registered with Ohio EPA. In 2012, Ohio

EPA required MRP to terminate use of the wells due to presence of PCE in local groundwater (Ohio EPA 2012, 2013).

Paul's Garage

Paul's Garage is an automotive service facility that includes a metal building, a residence, and area in back used by lessees for long-term storage of large recreational vehicles (RV), campers, and boats (Figure 2). Paul's Garage began operations in the 1960s. The property was originally part of the same property as MRP but does not appear to have been used for MRP operations. Chlorinated solvents are sometimes used in automotive repair facilities to degrease various metal parts. A 500-gallon underground storage tank (UST) that reportedly formerly contained waste oil was present off the northwest corner of the building. Information provided by Paul's Garage indicates that the UST was used from 1973 to 1985, and was subsequently removed with State of Ohio oversight. According to the information provided, a groundwater monitoring well was installed directly downgradient of the UST site and was sampled, and no further action was required. Available information has not indicated presence of any dry wells or production wells at the Paul's Garage property. The northeastern border of the Paul's Garage property is separated from the MRP property by a chain-link fence (Paul's Garage 2013).

Rockcastle Storage

Rockcastle Storage was constructed in the 1980s. Historical aerial photographs show that the land was undeveloped prior to that time. The facility includes a front office at the east end of the property that is also used as a residence by the site manager. Six rows of storage structures are west of the office, and together with the access driveways, cover most of the property. A large, dry, well/stormwater basin is within the only unpaved area, at the southern end of the property (Figure 2).

2.2.2 Previous Investigations

In November 2010, Ohio EPA conducted a Site Inspection at MRP (EPA ID# OHN000510489), and determined that groundwater flow is to the southwest of the MRP facility. Six groundwater samples were collected by use of Geoprobe direct-push technology (DPT). The active deep production well was sampled, along with dry well number DW-2, which reportedly had received cooling water from the degreasing tanks. Sample results indicated significant levels of PCE and lower levels of TCE in three of the samples. PCE was detected at 156 micrograms per liter ($\mu\text{g/L}$) or parts per billion (ppb), and TCE was detected at 6.18 ppb in the active production well sample. At the time of sampling, water from this production well entered the cooling water system and was discharged to either dry well DW-2 or DW-3. The sample collected from DW-2 also contained PCE and TCE, but at lower concentrations (77 and 2.2 ppb, respectively) than in the production well sample. PCE and TCE concentrations (58 and 11 ppb, respectively) were also detected in a shallow Geoprobe groundwater sample collected at the southwest corner of the MRP facility (downgradient location). In summary, Ohio EPA's 2010 sampling activities documented PCE and TCE contamination in the active production well and dry wells at the MRP facility (Ohio EPA 2012, 2013).

Ohio EPA conducted an Expanded Site Inspection (ESI) during December 2011. Three Geoprobe™ pre-packed monitoring wells were installed. The well at the northwest corner of the MRP property (location MW-1) did not reach the main shallow aquifer, rendering it unsuitable for

water level measurements. PCE was detected at 300 ppb at location MW-3, at the southwest corner of the MRP property (Ohio EPA 2012, 2013).

Ohio EPA completed a Supplemental ESI (SESI) at and around MRP in February and March 2013. The investigation included advancements of 18 direct-push borings, collection of groundwater samples, and installation of 4 additional monitoring wells, including a well on Hypathia Avenue, within the off-property residential area downgradient of MRP. SESI sampling results indicated significant detections of PCE and TCE in the shallow sand and gravel aquifer. In addition, Ohio EPA detected PCE concentrations ranging from 5 to 14,000 ppb along the southwestern perimeter (downgradient) of the MRP facility, and from nondetect to 31 ppb along the northeastern perimeter (upgradient) of the MRP facility. The highest concentration (14,000 ppb) was detected in a sample collected from a Geoprobe boring advanced on the Paul's Garage property, approximately 30 feet west (downgradient) of the Mullins property line, in an area that Paul's Garage reportedly uses only for parking/storing RVs. Based on these groundwater sample results, the 2013 Ohio EPA SESI report concluded that the PCE source is east of sample location GW-14 (Ohio EPA 2013).

Additionally, PCE was detected in groundwater at 1,500 ppb at MW-4 on Hypathia Avenue in the residential area 900 feet southwest of the MRP facility. Detection of VOCs in the groundwater underlying this residential area, downgradient of the MRP facility, prompted Ohio EPA to request EPA removal assistance in May 2013 to investigate potential VI at the site (EPA 2014).

On June 14, 2013, the Health Assessment Section of the Ohio Department of Health (ODH) provided health-based guidance to evaluate results from VI sub-slab vapor and indoor air sampling for contaminants of concern at the site. ODH specified residential and nonresidential sub-slab vapor and indoor air screening and action levels (EPA 2014).

In July and August 2013, EPA conducted a Removal Site Investigation at the site including sampling of groundwater, soil gas, and residential VI sub-slab vapor and indoor air. Ohio EPA's Site Investigation Field Unit (SIFU) provided a Geoprobe unit, and installed 16 soil gas probes at nine locations southwest of the MRP facility. At each soil gas probe location, if water was encountered, a groundwater sample was collected. EPA analyzed four groundwater samples during the investigation. Groundwater samples SG-2-GW, GW-7, and GW-8 were collected within the neighborhood southwest of the MRP facility between Hypathia Ave and Pleasant Valley Ave. Groundwater sample GW-9 was collected adjacent to the southwest side of the MRP facility (downgradient of the facility). Sample GW-9 contained the highest PCE concentration at 20,000 ppb. The groundwater sample collected at SG-8 (sample GW-8) showed the highest TCE concentration at 47 ppb. The highest PCE groundwater concentrations detected under the neighborhood southwest of the MRP facility ranged from 240 to 800 ppb. (EPA 2014).

Based on results from these investigations, EPA initiated a time-critical removal action at the site in December 2013. Between December 2013 and October 2014, EPA documented a completed exposure pathway for VI at the site, as PCE was documented in groundwater (highest level of 20,000 µg/L), in soil gas (highest level of 30,000 ppbv), in residential sub-slab vapor (highest level of 8,200 ppbv), and in residential indoor air (highest level of 32 ppbv). Moreover, a second complete exposure pathway for VI was documented at the site, as TCE was documented in the groundwater (highest level of 47 µg/L), in soil gas (highest level of

5,600 ppbv), in residential sub-slab vapor (highest level of 160 ppbv), and in residential indoor air (highest level of 0.92 ppbv) (EPA 2014).

Between December 2013 and October 2014, EPA completed VI removal activities as summarized below:

- Sampled 277 residential properties (sub-slab vapor or indoor air), at 80 of which PCE and/or TCE concentrations exceeded Agency for Toxic Substances and Disease (ATSDR) and ODH screening levels
- Completed installation of residential Vapor Abatement Systems at 75 of 80 residences.

The following range and frequency of detections were identified in the 2013-2014 EPA residential baseline sample results:

- PCE was detected in 88% of residential sub-slab vapor sample results. PCE was detected within a range of 0.13-27,300 ppbv in residential sub-slab vapor sample results—up to 450 times the ATSDR/ODH screening level.
- TCE was detected in 60% of residential sub-slab vapor sample results. TCE was detected within a range of 0.13-1,120 ppbv in residential sub-slab vapor sample results—up to 280 times the ATSDR/ODH screening level (EPA 2014; ODH 2014).

3.0 SOURCE AREA INVESTIGATION ACTIVITIES

Based on results from previous investigations, the need to locate a source area of the contamination, and the possible need for permanent remediation of the source or sources, EPA completed a Source Area Investigation in 2014. The investigation centered on the area in the vicinity of the highest detected groundwater concentrations of PCE, which previous investigations had indicated as near the MRP/Paul's Garage property border and included multiple properties and areas both directly upgradient and lateral to the MRP and Paul's Garage properties. The locations were selected based on review of historical documentation including past history and previous investigations, knowledge of the local groundwater flow direction, and accessibility. Investigation locations were selected via collaboration between EPA and Ohio EPA, and were cleared with the respective property owners. Figure 3 shows the sampling locations.

Sampling locations and field and analytical procedures complied with a site-specific Sampling and Analysis Plan (SAP) approved by EPA in September 2014 (Tetra Tech 2014). Samples were managed under appropriate chain of custody, and preservation and shipping procedures also specified in the SAP. The investigation included the following data acquisition activities:

- Field staking of proposed sampling locations and utilities clearance
- A round of groundwater elevation measurements at all existing site monitoring wells
- Collection and analysis of sub-slab vapor samples at six locations within the Mullins plant structure
- Advancement of seven Rotosonic borings and two DPT borings; collection of soil and groundwater samples within select depth intervals; and installation, development, and surveys of groundwater monitoring wells
- Collection of groundwater samples from all newly installed wells (at MW-EPA-7 through -14) and previously existing monitoring wells (MW-1 through MW-6) at the site.

The following sections describe field sampling activities.

3.1 SUB-SLAB SAMPLING

Most of the northern portion of the MRP site is covered with structures, and spatial constraints and work activities at MRP prevented conventional drilling and soil or groundwater sampling activities. Also for this reason, sub-slab vapor samples were collected at six locations (VP-EPA-1, -2, -3, -4, -5, and -6) beneath the floor slabs in the western portion of the MRP manufacturing building (see Figure 3). Prior to installation of the probes, to ensure lack of utilities within the area of sub-slab vapor sampling, sampling locations were cleared with MRP management and checked by a geophysics contractor (Bloodhound, Inc.). Three locations were parallel to and near the western wall of the structure (VP-EPA-1, -2, -3), and three additional locations were sampled in the next section of the structure to the east (VP-EPA-4, -5, -6), including one sample in the vapor degreaser room (VP-EPA-4).

EPA START personnel conducted sampling on September 27 and 28, 2014, conforming to the SAP and EPA and Ohio EPA guidance for collection of VI samples.

Sub-slab sample ports were assembled and installed at each of the six sampling locations. A shroud leak test was performed on the entire sample train. Sample collection began at each location following successful completion of the leak check. Leak checks and sample collection occurred in the same sequence as port installation: VP-EPA-3, VP-EPA-2, VP-EPA-1, VP-EPA-5, VP-EPA-6, and VP-EPA-4.

Samples were collected following assembly and installation of permanent sub-slab sample ports through the concrete floor of the building foundation. To install each sample port, a hammer drill was used to drill completely through the slab, extending several inches past the bottom of the slab. A stainless steel sample port was then assembled, using 0.25-inch stainless steel tubing and a connector consisting of Swagelok fittings. The length of each stainless steel sample port was determined at each location to ensure that the port would extend less than 1 inch beyond the bottom of the slab. Sample ports were sealed in place by use of quick-set hydraulic cement.

After installation of all six sub-slab sampling ports, a shroud leak check was performed at each location immediately prior to initiation of sampling. The shroud enclosed the entire sample train, including the sub-slab probe, the SUMMA canister, 3-way fitting and toggle valve, and all connections between. Laboratory-grade helium (99.99% helium) was used as a tracer gas, and an MGD-2002 was used to monitor helium concentrations. After concentration of helium in the shroud reached at least 50 percent saturation at each location, the toggle valve, an air sampling pump, lung box, and 1-liter tedlar bag were used to monitor the sampling train. The concentration of helium in the sampling train was confirmed to be less than 10 percent the concentration of helium in the shroud prior to sampling at each location. The sampling train was also monitored for organic vapors by use of a photoionization detector (PID) during the leak check. Sample collection began immediately after successful completion of the leak check at each location. Samples were collected by use of certified SUMMA vacuum canisters for a 24-hour period. EPA START documented vacuum pressure upon start and completion of the sampling period to ensure that vacuum pressure remained at termination of sampling. The samples were shipped under chain of custody to Pace Analytical Laboratories (Pace) in Minneapolis, Minnesota, for VOC analysis via Method TO-15.

3.2 SOIL BORINGS AND SOIL/GROUNDWATER GRAB SAMPLING

Eight boring locations were proposed based on the objectives of locating potential source areas within the plume area and evaluating background conditions for any potential source area identified (Figure 3). Boring locations were marked and cleared for utilities by a private contractor using ground penetrating radar (GPR), and also cleared through Ohio Utilities Protection Service (OUPS). Locations on private property (MRP, ODF, Paul's Garage, and Rockcastle Storage) were cleared via access agreements with their respective owners or property managers and via legal counsel where applicable. One location was within a City of Riverside right-of-way on Valley Pike, and was approved by the City.

Drilling at the Rockcastle property commenced on October 6, 2014, (locations MW-EPA-10 and -11). Drilling services were provided by Cascade Drilling, Inc. Drilling progressed in the general direction of upgradient to downgradient to avoid potential for cross contamination within any zones that might be highly contaminated.

A roto sonic drill rig provided by Cascade Drilling, Inc. was utilized to complete the six borings for installation of the following monitoring wells; MW-EPA-7, MW-EPA-10, MW-EPA-11, MW-EPA-12, MW-EPA-13, and MW-EPA-14. Because of spatial constraints, a DPT rig provided and

operated by Envirocore, Inc. was utilized to complete the two borings for installation of monitoring wells at MW-EPA-8 and MW-EPA-9. Boring logs are in Appendix B. Soil cores were collected at each boring location continuously until the boring reached the desired depth.

Immediately after each soil core was opened, it was inspected for staining or odors, and field-screened for organic vapors using a PID. A portion of each interval was also placed in a plastic bag, allowed to warm, and screened again for VOCs. PID readings are included on the boring logs in Appendix B. The core was observed and logged for lithology and moisture content.

Subsurface material consisted of varying thicknesses of glacial-derived, unconsolidated deposits as described in Section 5. The dense gray till layer was thickest (20 feet) on the ODF property at MW-EPA-13, and was absent at MW-EPA-9 on Valley Pike.

Typically, groundwater was not present above the till; however minor amounts of moisture indicative of a seasonal or "perched" zone were encountered above the till in the borings for wells MW-EPA-8, MW-EPA-11, and MW-EPA-14. At the other locations, visibly saturated material was encountered immediately below the dense till in coarse sands and gravels. At locations where till was encountered, water levels in the completed monitoring wells were measured several feet above the top of the till, to depths ranging from approximately 19 to 26 feet bgs.

Soil samples were collected from the two borings (MW-EPA-7 and MW-EPA-8) on MRP property and from the one boring (MW-EPA-14) on Paul's Garage property. Three samples were collected from each of the three borings within the following intervals: the 0-5 foot bgs horizon, the 5-10 foot bgs horizon, and the 10-20 foot bgs horizon.

Additional samples were collected at the boring for well MW-EPA-8 (on the western portion of the MRP property) based on PID readings. PID readings from field screening of soil cores at this location were as high as 3,700 parts per million (ppm) or 3,700,000 ppb at 25 feet bgs (the bottom foot of the dense glacial till layer). Therefore, two additional soil samples were collected within the 20- to 26-foot bgs interval. No PID readings were noted above 2,000 ppb at any location upgradient of MRP property.

Soil samples were collected by use of Terra-Core sampling kits, consisting of three preserved and pre-weighed vials with a stir bar and a dry weight vial. Collection procedures minimized chemical volatilization to the extent possible.

A grab groundwater sample was collected from the boring at MW-EPA-8 by use of disposable tubing and a check valve. The purpose was to ensure collection of a groundwater sample before attempts to push the larger diameter rods (needed to set the monitoring well), because density of the till was high enough to possibly pose too much resistance to the larger rods. However, the larger diameter rods were successfully driven to the target depth for the well, and a permanent monitoring well was set (see Section 3.3).

Sample quality assurance (QA) protocols were followed per the approved project SAP. Grab water samples were collected in pre-preserved 40-milliliter vials. Samples were placed in ice-filled coolers, managed under chain-of-custody procedures, and submitted to Pace in Indianapolis, Indiana, for analysis for VOCs via SW-846 Methods 5035/8260 (soil) and 8260 (water).

3.3 MONITORING WELL INSTALLATION, DEVELOPMENT, AND SURVEYING

The monitoring wells installed by use of a roto sonic drill rig are constructed of 2-inch-diameter, 10-foot (schedule 40), 0.010 slot, polyvinyl chloride (PVC) screen, and PVC riser. The two monitoring wells (EPA-MW-8 and EPA-MW-9) installed via DPT are constructed of 1.5-inch-diameter, 10-foot (schedule 40), 0.010 slot, pre-packed PVC screen, and PVC riser. Bottom depths of the monitoring wells ranged from 39 to 48 feet bgs. Monitoring well construction details are on the logs in Appendix B and in Table 1.

A filter sand-pack consisting of silica sand was installed from the bottom of the screen to between 1 and 2 feet above the top of the screen. Care was taken to ensure that where till was encountered, neither the screen nor filter pack would straddle the separating layer. A 2-foot-thick (or greater) bentonite seal, consisting of bentonite pellets, was installed above the filter sand pack and was hydrated with clean potable water; the remainder of the annular space was sealed with a bentonite-cement grout introduced via tremie pipe. Each well was completed with installation of a flush mount steel protective casing over it, and was secured with an expandable plug and lock. The wells were finished with a concrete pad appropriately sloped to divert runoff.

Monitoring wells installed during October 2014 were developed after a minimum of 24 hours had elapsed post-well construction. Well development activities were conducted by Cascade Drilling, Inc. for the monitoring wells installed by use of a roto sonic rig. Envirocore, Inc. conducted well development activities for the two monitoring wells installed via DPT. Each well was developed via purging techniques that removed a minimum of 5 to 10 well volumes and continued until the water was relatively clear. Purged water was contained in 55-gallon drums for characterization and off-site disposal.

Monitoring wells were surveyed by a licensed surveyor (McDougall-Marsh Land Surveyors) to determine top of casing (TOC) elevations and location with respect to northing and easting State Plane coordinates. Each monitoring well was surveyed for vertical datum relative to an established United States Geological Survey (USGS) benchmark. Land-based survey methods were applied to link newly installed monitoring wells with existing USGS data.

3.4 GROUNDWATER MONITORING WELL SAMPLING

Groundwater samples were collected from 16 wells. Samples were collected from 15 of the wells via low flow sampling methodology. These included existing monitoring wells MW-1R, MW-2, MW-3, MW-4, MW-5, and MW-6; the shallow inactive production well (MW-PW), and newly installed monitoring wells MW-EPA-7, MW-EPA-8, MW-EPA-9, MW-EPA-10, MW-EPA-11, MW-EPA-12, MW-EPA-13, and MW-EPA-14. Review of past sampling data indicated likely presence of high concentrations of VOCs in groundwater at some of the proposed sampling locations. For this reason, sampling proceeded in the general order of upgradient to downgradient to the greatest extent possible, to reduce potential for cross contamination.

The methodology applied for low-flow sampling was as follows: measure the static water level in the well to the nearest 0.01 foot, lower a bladder pump (submersible pump with dedicated tubing) so that the intake is within the screened interval, purge the monitoring well using the adjustable rate pump, monitor the water level, and adjust the pumping rate so that drawdown is no greater than 0.3 foot. The pump and tubing were lowered so that they did not contact and disturb any sediment possibly present at the bottom of the well. Purging began at the lowest possible flow rate so that any sediment present in the well would not be disturbed. During

purging, groundwater was monitored for pH, temperature, conductivity, turbidity, dissolved oxygen, and oxidation-reduction potential until these parameters stabilized.

Field conditions and sampling information were recorded on sampling logs. Once the parameters had stabilized, groundwater samples were collected directly from the pump/tubing discharge into the sample containers provided by the laboratory.

Disposable tubing, bladders, and O-rings were used with the pump at each location. Also, the pump body was submerged and scrubbed in liquinox and rinsed with deionized water to decontaminate it after sampling at each location.

A groundwater sample was also collected from existing well MW-1 by use of a small dedicated bailer because the well was initially pumped dry during attempted micropurging, and required additional time to recharge. The sample was collected approximately 2 weeks after initial purging.

The groundwater samples were stored in ice-filled coolers and kept under chain of custody. The samples were shipped to Pace in Indianapolis, Indiana, for analysis for VOCs via EPA SW-846 Method 8260.

4.0 SAMPLE ANALYSIS AND QA

The following sections describe sample analyses, data validation, and any qualification of the data based on the validation. The analyte list included Target Compound List (TCL) VOCs; however, PCE and TCE and their associated degradation byproducts (*cis*-1,2-dichloroethene [cDCE] and vinyl chloride) were the primary contaminants of concern (COC) for this study. For this reason, presentation and discussion of the data in this report focus on these four COCs. Complete analytical results for all TCL compounds are in Appendices C and D.

Overall, QA review/validation of field and analytical procedures, and quality control (QC) assessment indicated that all results for the COCs of primary interest (PCE, TCE, cDCE, and vinyl chloride) are usable. Routine QC qualifications of various data outside of control limits for unqualified use but still within the “usable” range are indicated by the appropriate qualifier adjacent to those data listed in Tables 2 and 3. Several results for other TCL compounds were determined unusable because validation found that those results were outside of control limits; however, none of these compounds was detected in any sample.

4.1 SUB-SLAB VAPOR DATA

Pace Analytical Laboratories received the 24-hour sub-slab vapor samples in good condition on September 30, 2014. The samples were analyzed for TCL VOCs via EPA Method TO-15. Sample analyses were completed within required holding times. Data were validated between November 2014 and January 2015. The data validation report is in Appendix C.

Table 2 summarizes results from the sub-slab vapor sample analyses, and the full analytical data packages are in Appendix C. Validation and review of the data indicated that all data regarding the primary COCs of interest (PCE, TCE, cDCE, and vinyl chloride) are usable (qualified where appropriate—see Table 2). Results for several other compounds in samples collected at VP-EPA-4, -5, and -6 were determined unusable because calibration results were outside of acceptance criteria. However, this did not affect PCE, TCE, cDCE, or vinyl chloride data, and thus investigation objectives were not adversely impacted.

4.2 SOIL DATA

Pace received the soil samples collected between October 7 and 9, 2014, in good condition and within required holding times. The samples were analyzed for TCL VOCs via EPA SW-846 Methods 5035/8260. Sample analyses were completed within required holding times. Data were validated from November 2014 to January 2015. The data validation report is in Appendix D.

Table 3 summarizes results from the soil sample analyses, and the full analytical data packages are in Appendix D. Validation and review of the data indicated that all data regarding PCE, TCE, cDCE, and vinyl chloride are usable. Results for several other compounds in some samples were determined unusable because initial or continuing calibration results were outside of acceptance criteria. However, this did not affect PCE, TCE, cDCE, or vinyl chloride data, and thus investigation objectives were not adversely impacted.

4.3 GROUNDWATER DATA

Pace received the groundwater samples collected in October 2014 in good condition. The samples were analyzed for TCL VOCs via EPA SW-846 Method 8260. Sample analyses were completed within required holding times. Data were validated in November and December 2014. The data validation report is in Appendix D.

Table 3 summarizes results from the groundwater sample analyses, and the full analytical data packages are in Appendix D. Validation and review of the data indicated that all data regarding PCE, TCE, cDCE, and vinyl chloride are usable. Results for several other compounds in some samples were determined unusable because initial or continuing calibration results were outside of acceptance criteria. However, this did not affect PCE, TCE, cDCE, or vinyl chloride data, and thus investigation objectives were not adversely impacted.

5.0 SUMMARY OF FIELD OBSERVATIONS AND ANALYTICAL DATA

Tetra Tech reviewed the hydrogeologic and analytical data gathered during the source investigation in an effort to identify locations of potential source areas of the VOC contamination. The data were evaluated in conjunction with data gathered during previous investigations and other historical file information regarding site features and history, and operations at the site. The following sections summarize results from the 2014 investigation, as well as overall observations regarding potential source areas at the site.

5.1 SITE GEOLOGY AND HYDROGEOLOGY

To date, 15 monitoring wells, supplemented with additional soil borings, have been completed at the site. Observations in this section are based primarily on data obtained during the 2014 source investigation, as all borings during this investigation were logged continuously to the completing depth to describe stratigraphy in detail. Geologic logs and well construction diagrams of the borings completed during the 2014 source investigation are in Appendix B. Figures 4 and 5 show generalized geologic cross sections depicting the subsurface conditions in the site study area.

5.1.1 Site Geology and Drilling Observations

Subsurface materials were found to consist of varying thicknesses of fill materials overlying glacial-derived, unconsolidated deposits. The glacial-derived material consists of mixed and interbedded sand, gravel, silt, and clay.

In general, sands and gravels are the predominant deposits. Throughout much of the study area, a layer of dense glacial till (gray silty clay with varying amounts of fine to coarse gravel and cobbles) was encountered, separating the overlying silt, sand, and gravel from coarser sands and gravels below. Where present, this till layer was encountered at depths ranging from approximately 15 to 35 feet bgs. The greatest thickness of the material was encountered at the boring for well MW-EPA-13, where over 20 feet of this material was encountered. In general, within the area along and north of Valley Pike west of the MRP property, the till is present (as indicated by logs of water supply wells available from ODNR) at depths ranging from approximately 30 to 35 feet bgs, but thickness is highly variable. In the vicinity of the MRP and Rockcastle properties, thickness of the till appears to decrease from north to south, and is absent at MW-EPA-9 on the south side of Valley Pike. Below the till, fine to coarse sand and gravel were encountered at all locations.

Logs of remaining wells in the area (ODNR 1972; Various) indicate that numerous wells extend through the till and into the sand and gravel beneath. The log of the injection well at MRP indicates that the well extended through the till into the underlying sand and gravel.

At many boring locations, a layer of fill (generally silt or silty sand and gravel) was encountered. Slightly elevated PID readings (see boring logs in Appendix B) and a slight hydrocarbon odor were noted in this fill material at most boring locations. The odors and elevated PID readings generally dissipated at depths below 6 to 10 feet, and did not extend to the water table. However, PID readings from several soil samples collected from the boring for well MW-EPA-8 (at the western edge of the MRP property between the building and the fence) were two to three orders of magnitude greater than those observed at any other location, with the highest reading

from a sample collected at the lower foot of the above-mentioned till layer. The high PID reading corresponded with a zone of white staining/discoloration within the till at this location. The staining was not observed in the portion of the till above this zone, and PID readings were also much lower from the overlying zone. This observation suggests that the staining and high PID reading were caused by contact of the underside of the till with highly concentrated VOC contamination migrating through groundwater beneath the till.

5.1.2 Site Hydrogeology

Table 1 summarizes depths and TOC elevations of the monitoring wells at the site, and groundwater elevation data acquired during the 2014 source investigation. While drilling, noticeably saturated material was generally first encountered at depths ranging from approximately 24 to 30 feet bgs at most locations. Typically, saturated material was not present above the till; however minor amounts of moisture indicative of a low-yielding seasonal or “perched” zone were encountered in the borings for wells MW-EPA-8, MW-EPA-11, and MW-EPA-14. At the other locations, saturation was generally encountered immediately below the dense till in coarse sands and gravels. Water levels in completed monitoring wells were subsequently measured to depths ranging from approximately 19 to 26 feet bgs, several feet above the top of the till encountered at some locations.

Figure 6 shows groundwater elevation data acquired from the newly installed and pre-existing monitoring wells on October 16, 2014. The groundwater flow direction in the sand and gravel aquifer is southwestward. The horizontal gradient was extremely low (less than 0.001) within the eastern portion of the MRP property and areas to the east, and steepened to approximately 0.004 within the area west of MRP. Overall, groundwater flow direction appeared consistent with that determined during past investigations, indicating flow is roughly parallel to Valley Pike.

During the groundwater sampling program, field crews attempted to use low-flow techniques to collect a groundwater sample from shallow well MW-1, at the northwest corner of the MRP site. MW-1 is screened above the till. The well purged dry even at the low micropurging rate used for the sampling, and could not be sampled until given time to recharge. Field observations during the soil boring program suggest that the presence of groundwater above the till is sporadic and associated with localized conditions. The till was not observed at some boring locations and varied in thickness where it was encountered. At location MW-9, south of Valley Pike, where till was not encountered, the piezometric elevation is consistent with that at wells screened below the till, indicating that the till does not act as a continuous confining unit throughout the area.

5.2 SUMMARY OF ANALYTICAL RESULTS

The following sections summarize results from analyses of soil and groundwater samples collected during the investigation. These discussions focus on the two primary COCs for this source investigation: PCE and TCE. Tables 2 and 3 summarize analytical results for PCE and TCE. Full analytical reports are in Appendices C and D.

5.2.1 Sub-Slab Vapor

The six sub-slab vapor samples were collected at VP-EPA-1, -2, -3, -4, -5, and -6. Table 2 summarizes analytical results for PCE and TCE. Sample locations and results are shown on Figure 7. Full laboratory analytical reports are in Appendix C. TCE and PCE were detected at

all six sample locations. The highest concentrations of both PCE and TCE were detected at VP-EPA-4, -5, and -6. Lower concentrations were detected at VP-EPA-1, -2, and -3, farther west in the MRP structure between the Paul's Garage property line and the MRP degreaser area. PCE concentrations ranged from 6.4 parts per billion by volume (ppbv) at VP-EPA-1 (the northwestern-most sample location) to 515,000 ppbv at VP-EPA-4 (adjacent to the MRP vapor degreaser). TCE concentrations ranged from 19 ppbv at VP-EPA-1 to 8,130 ppbv at VP-EPA-5 (within the building area directly south of the MRP degreaser). Presence of high concentrations of PCE in these samples suggests proximity to a PCE source in the shallow unsaturated zone at MRP close to the degreaser. The reported concentrations in several samples significantly exceeded ODH/ATSDR commercial sub-slab screening levels for PCE (250 ppbv) and TCE (20 ppbv).

5.2.2 Soil

Soil samples were collected at three boring locations: MW-EPA-7 and MW-EPA-8 at MRP, and MW-EPA-14 on the Paul's Garage property. Table 3 summarizes soil sample depths and analytical results for the primary site COCs (PCE and TCE). Sample results are shown on Figure 8. Full analytical results are in Appendix D.

PCE and/or TCE were detected at the following locations and depth intervals: MW-EPA-7 (15-17 feet bgs), MW-EPA-8 (13-15, 20-22, and 24-26 feet bgs), and MW-EPA-14 (18-20 feet bgs). At the boring for well MW-EPA-7, PCE was detected at a concentration of 43 ppb in a sample collected at 15-17 feet bgs. At the boring for well MW-EPA-8, PCE was detected at 32 ppb in samples collected above the water table at 13-15 feet bgs, and also at 17,100 ppb within 20-22 feet bgs, which appears to be associated with the upper part of the zone of water table fluctuation. TCE was also detected at 2,600 ppb within 20-22 feet bgs. The highest concentrations of PCE and TCE in site soils were detected at MW-EPA-8 on the MRP property in the lower part of the sample interval (24 to 26 feet bgs) within the bottom portion of the dense gray till. This boring was between the western (downgradient) side of the MRP building and the boundary with Paul's Garage. PCE and TCE concentrations in this sample were 2,040,000 and 411,000 ppb, respectively. The presence of PCE and TCE both above and below the water table at this location suggests proximity to the same on-site source area at MRP from which the high concentrations of VOCs detected in the sub-slab vapor samples originate. Apparent absence of PCE and TCE in the shallowest soil samples collected at this location also suggests that the soil contamination is not originating from a surficial source such as dumping of used solvents near the fence.

In the boring for well MW-EPA-14 on the Paul's Garage property, soil samples were collected within the shallow subsurface (2-4 feet bgs), mid-vadose zone (8-10 feet bgs), and zone above the dense gray till (18-20 feet). PCE and TCE were not detected in the samples from the upper two horizons. These observations do not indicate presence at the Paul's Garage property of a source such as soil contaminated by dumping of used solvents on the surface.

Low concentrations of PCE (14 ppb) were detected in the sample collected from MW-EPA-14 within 18-20 feet bgs, associated with the top of the semi-saturated zone. This location is downgradient of MW-EPA-8.

5.2.3 Groundwater

During the source investigation, one “grab” groundwater sample was collected from the boring for well MW-EPA-8 (see Figure 9), and 16 samples were collected from the site monitoring well network and inactive production well (see Figure 10). Table 3 summarizes groundwater analytical results for the primary site COCs (PCE and TCE). Sample locations and results are shown on Figures 9 and 10. Full analytical results are in Appendix D.

PCE and/or TCE were detected in the samples from monitoring wells at MW-2, MW-3, MW-4, MW-EPA-8, MW-EPA-10, and MW-EPA-14; the MRP production well (at MW-PW); and the grab sample from the boring for well MW-EPA-8. All of these locations are on or downgradient of MRP except for MW-EPA-10, which is at the southwest corner of the Rockcastle Storage property near the MRP production wells. The reported concentration of PCE in well MW-EPA-10 was 34 ppb.

PCE and TCE were not detected at the following locations: MW-5, MW-6, MW-EPA-7, MW-EPA-9, MW-EPA-11, MW-EPA-12, and MW-EPA-13. All of these locations are upgradient or upgradient/lateral of the MRP vapor degreaser and its formerly connected dry well locations.

The highest concentrations of PCE and TCE detected were in the grab sample and micropurge groundwater sample from location MW-EPA-8 on the MRP property. PCE concentrations in the grab and micropurge samples were 13,400 and 19,300 ppb, respectively. TCE was detected in the grab sample at 180 ppb but was not detected in the micropurged sample from the finished well. TCE was detected at only one other location (MW-EPA-4 on Hypathia Avenue), at 24 ppb.

The reported PCE concentration in the monitoring well on the Paul’s Garage property (at MW-EPA-14) was 2,500 ppb. Overall, distribution of PCE in the groundwater appears consistent with a conceptual PCE migration pathway extending from a source area on MRP property off site toward the southwest.

6.0 INVESTIGATION SUMMARY AND CONCLUSIONS

This section presents observations and conclusions based on results from the source investigation. The investigation included sampling and analysis of soil, groundwater and sub-slab vapor with the specific objective of locating the source areas of VOC contamination detected in previous studies. Figure 11 shows a conceptual site model (CSM) of the Valley Pike VOC site source area as indicated by the results of the source investigation.

- The natural groundwater flow direction in the uppermost aquifer is southwest. Of the various locations that have been sampled in the Valley Pike VOC site area, the highest concentrations of PCE and TCE in soil, groundwater, and sub-slab vapor have been detected in samples collected on the MRP property, adjacent to and immediately southwest/downgradient of the MRP vapor degreaser and dry well areas.
- Sub-slab vapor probe sample VP-EPA-4, collected next to the MRP vapor degreaser, contained PCE at 515,000 ppbv, as well as lower concentrations of TCE (4,670 ppbv) and cDCE (1,000 ppbv), indicating proximity to highly concentrated PCE.
- The highest concentrations of PCE and TCE detected in groundwater during the source investigation were reported in samples from boring/well MW-EPA-8, on the MRP property immediately downgradient of the MRP building, vapor degreasers, and dry well system. Concentrations of PCE in groundwater in this well were three orders of magnitude higher than the highest groundwater PCE concentrations detected upgradient of the MRP vapor degreaser/dry well area.
- Of the three sub-slab vapor probe locations in the westernmost part of the MRP building, the middle location (VP-EPA-2—the closest location to monitoring well MW-EPA-8 where significant PID readings and soil and groundwater contamination were detected) exhibited the highest PCE and TCE concentrations. These vapor sample results are consistent with a CSM of groundwater contamination migrating southwestward from the vicinity of the MRP degreaser/drywell area to the vicinity of well MW-EPA-8 and beyond.
- Although historical information indicates that several businesses such as gas stations, auto repair facilities, and at least one possible dry cleaner operated in the Site vicinity, data acquired during the current investigation do not indicate that significant amounts of VOCs are originating from areas close to Valley Street, Harshman Road, or Transportation Drive. PCE and TCE were not detected at the following monitoring well locations upgradient or upgradient/lateral of MRP: MW-5 (Transportation Drive), MW-6 (east of intersection of Harshman Road and Valley Pike), MW-EPA-9 (south side of Valley Pike), MW-EPA-11 (Rockcastle Storage), and MW-EPA-12 and-13 (both on ODF).
- Data from the eastern and southern portions of the MRP property further suggest a source area of PCE and TCE in the subsurface near or beneath the MRP main building. PCE and TCE were not detected in groundwater at location MW-EPA-7 on MRP, but upgradient/lateral of the vapor degreaser and formerly connected dry well discharge location. Relatively low concentrations (43 ppb) of PCE were detected in a soil sample collected at the top of the clay/till layer that underlies the upper silty sand and gravel. Overall, concentrations of VOCs detected at this location and other locations within the east and south portions of the MRP property were significantly lower than those detected

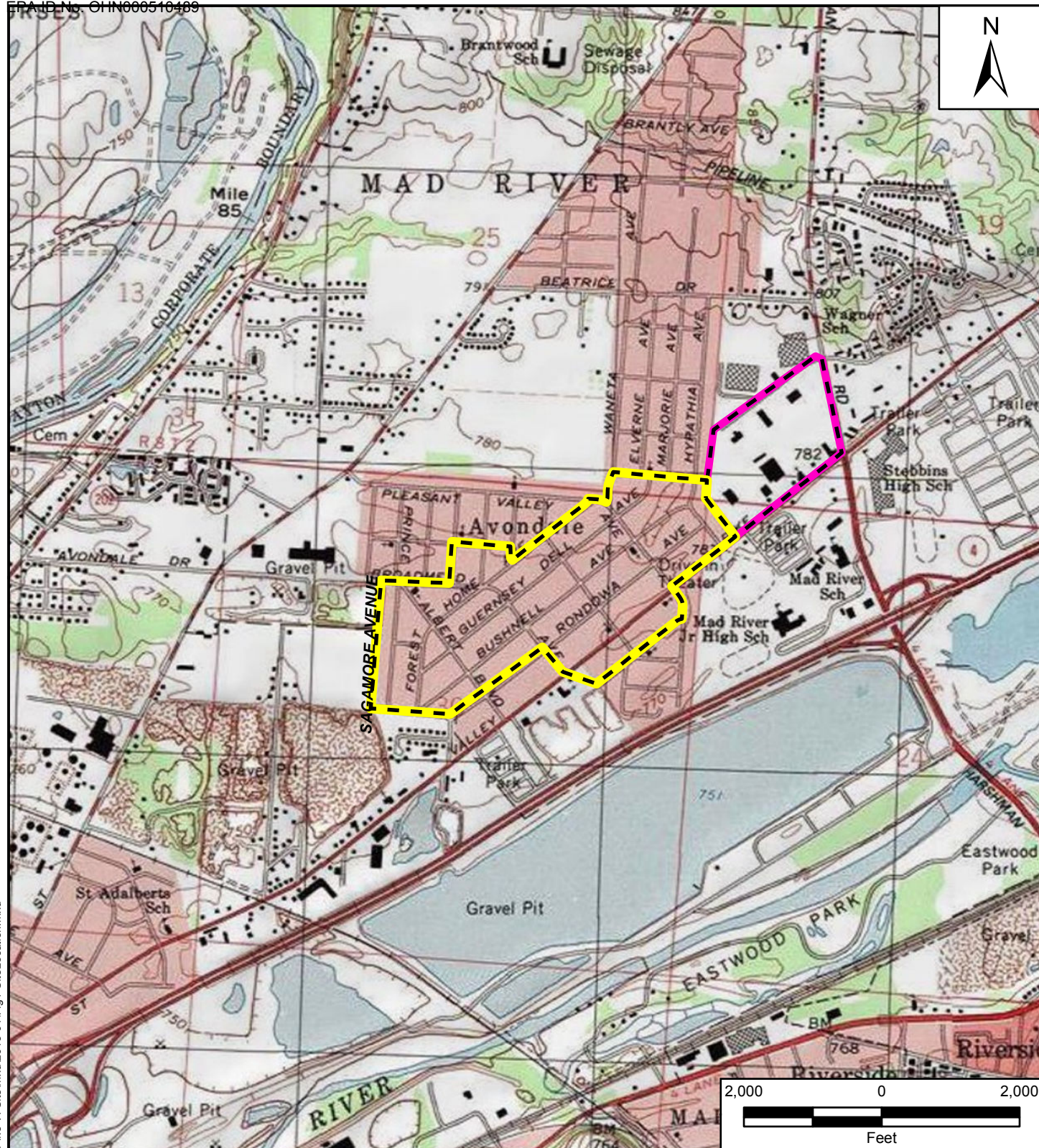
downgradient of the MRP building, vapor degreaser, and formerly connected dry well system.

- The dense clay/till layer that overlies the aquifer is not continuous - it thins southward in the area between ODF and Valley Pike, and is absent in some areas. This layer was not encountered at well MW-EPA-9. For these reasons the till should not be considered to be a barrier to vertical migration of contaminants in the site area.
- An available well log on file with ODNR indicates that the MRP injection/dry wells extend through the till layer to the underlying sand and gravel. Until 2012, MRP injected used cooling water directly into the underlying sand and gravel. Some of this water was associated with the MRP vapor degreasing process, although it was reportedly non-contact water. Various other forms of site drainage, such as stormwater, are disposed of via the injection wells. (ODNR 1972; Ohio EPA 2012, 2013).
- PCE concentrations in sub-slab vapor samples collected at VP-EPA-1, -2, and -3 (downgradient of the vapor degreaser and within the intervening areas between the degreasers and Paul's Garage) were significantly lower than those detected in the sample collected at VP-EPA-4—indicating low likelihood that the PCE detected at VP-EPA-4 originated on the Paul's Garage property and was being pulled back onto MRP via pumping.
- Soil data from the upper portions of the borings for wells MW-EPA-8 (on MRP) and MW-EPA-14 (on Paul's Garage property) did not indicate a surficial origin of contamination such as potential past surface dumping of used PCE in the vicinity of the property fence.
- In the boring for well MW-EPA-14 on the Paul's Garage property, no field observations or analytical data suggesting significant soil contamination in the vadose zone were noted. Groundwater concentrations in this well were less than those detected at MW-EPA-8 (on MRP property immediately upgradient of MW-EPA-14). These data and observations do not indicate presence of a PCE source on the Paul's Garage property.
- Groundwater samples from monitoring wells MW-1 and MW-1R were nondetect for PCE. Because these wells are located near the border with Paul's Garage and ODF, those results further support that contamination is not being pulled back onto the MRP property from neighboring properties.
- Field observations (detections of odors, PID readings) and analytical data collected at the boring for well MW-EPA-8 indicated that PCE concentrations within the subsurface materials were highest at the base of the till layer overlying the saturated sand and gravel. No staining, odors, or high PID readings were noted in the upper 4 feet of the till; they were only observed within the lower 1-foot directly overlying the saturated zone. This observation, and apparent absence of PCE or TCE in soil samples from the upper part of this boring, further suggest that PCE is not originating from surface dumping and migrating downward in the vicinity of the border between MRP and Paul's Garage properties, but instead is making its way into the sand and gravel aquifer at an upgradient location on the MRP property and migrating southwestward.

7.0 REFERENCES

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Figures



Reference Map



Legend

- Site Location
- Source Investigation Study Area

VOC = Volatile Organic Compounds

Source: USGS 7.5 Minute Topographic Quadrangle Map
 Dayton North, OH 1996

Valley Pike VOC Site
 Riverside, Montgomery County, Ohio

Figure 1
Site Location Map



Prepared For: US EPA

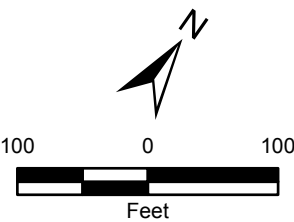
Prepared By: Tetra Tech



Legend

Parcel

VOC = Volatile Organic Compounds



Valley Pike VOC Site
Riverside, Montgomery County, Ohio

Figure 2
Source Investigation Study Area



Prepared For: US EPA

Prepared By: Tetra Tech

Source: Aerial Imagery, Bing Maps 2010



Legend

Existing Monitoring Well Location

Monitoring Well Location – Installed Oct 2014

Vapor Probe Location – Installed Sept 2014

Geological Cross Section Line

VOC = Volatile Organic Compounds

Notes:
Soil samples were collected from the following locations: MW-EPA-7, MW-EPA-8, and MW-EPA-14.

Valley Pike VOC Site
Riverside, Montgomery County, Ohio

Figure 3

Sampling Locations and
Cross Section Lines

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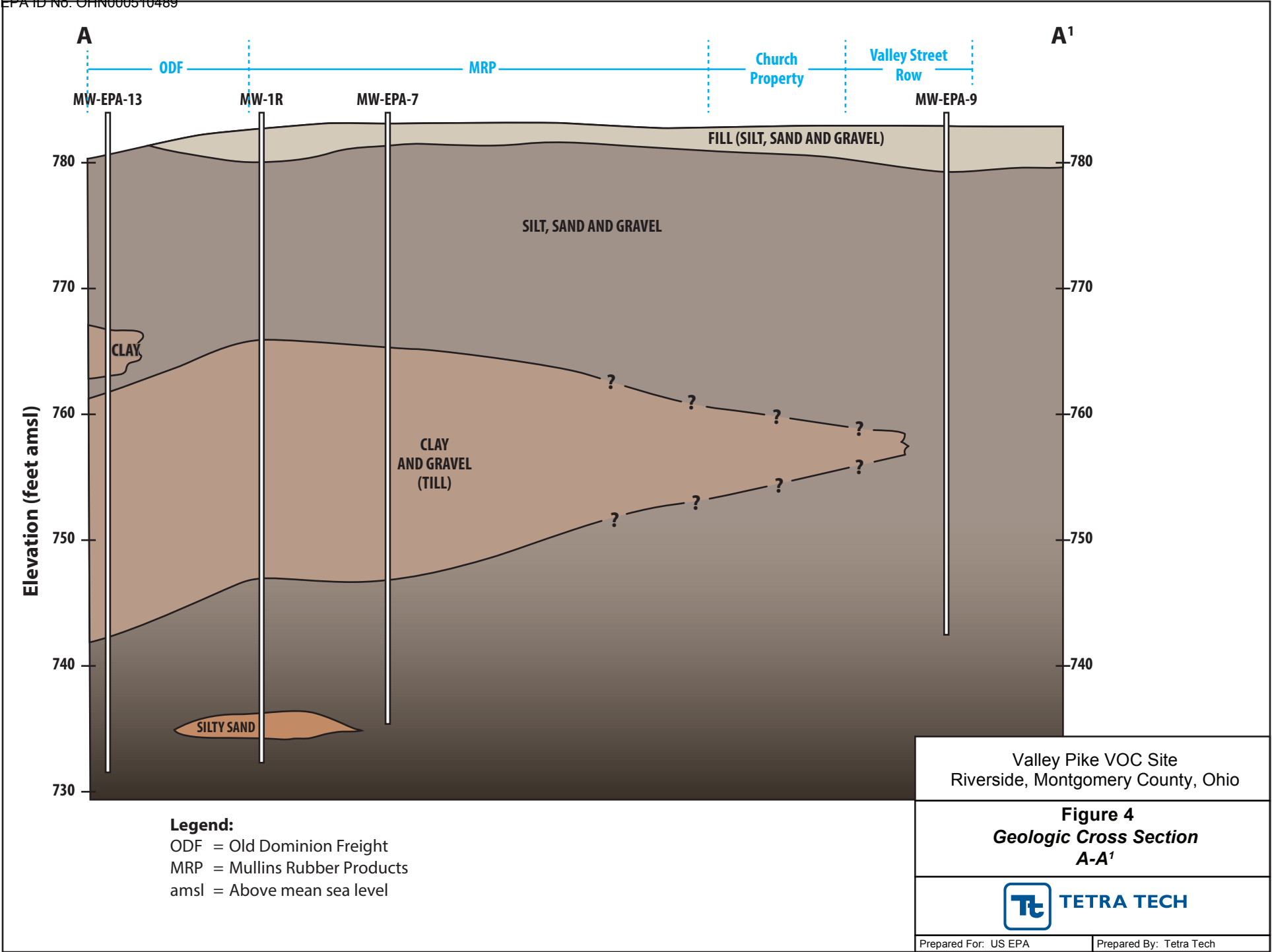
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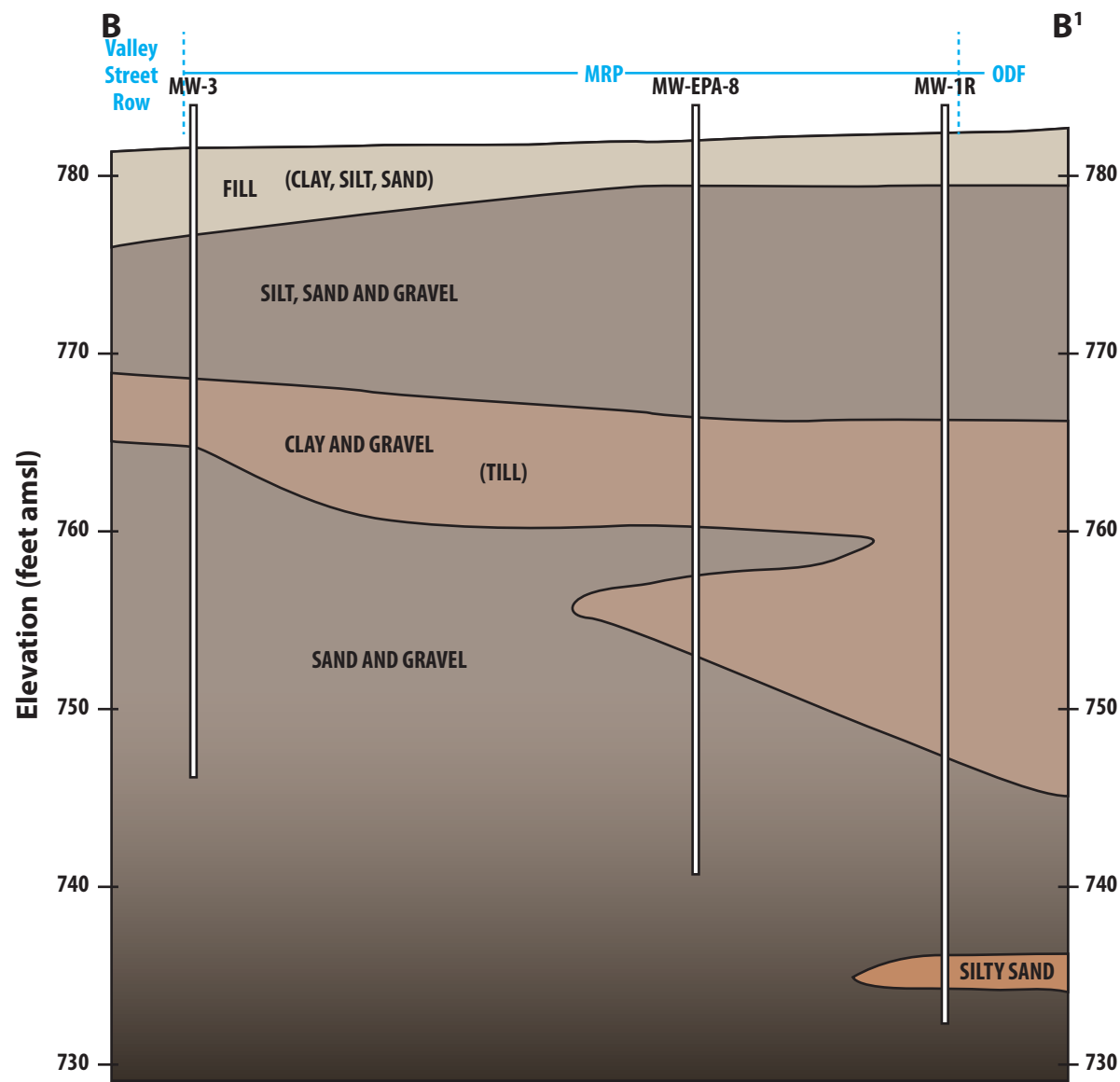
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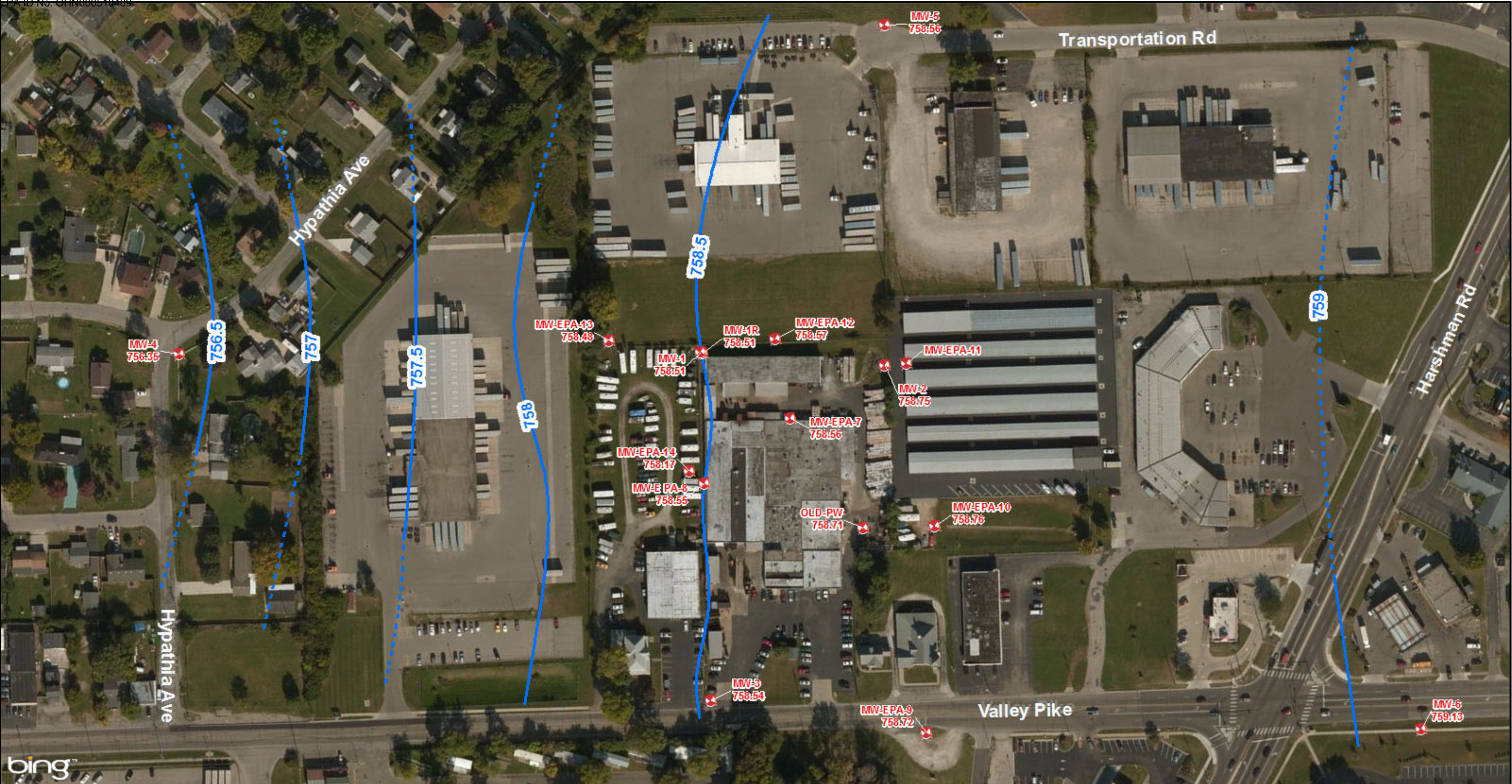


Legend:
ODF = Old Dominion Freight
MRP = Mullins Rubber Products
amsl = Above mean sea level

Valley Pike VOC Site
Riverside, Montgomery County, Ohio

Figure 5
Geologic Cross Section
B-B'

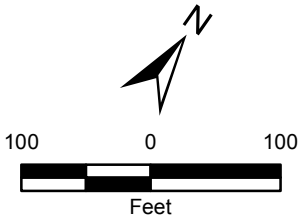




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Legend

- Monitoring Well Location
- Groundwater Contour
- Inferred Groundwater Contour
- Groundwater Elevation (feet amsl)
- Groundwater Elevation (feet amsl) measured on 10/16/14
- VOC = Volatile Organic Compounds
- amsl = Above mean sea level



Valley Pike VOC Site
Riverside, Montgomery County, Ohio

Figure 6
***Piezometric Elevations and
Groundwater Flow Direction***




Source: Aerial Imagery, Bing Maps 2010

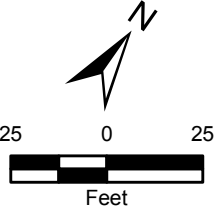
Prepared For: US EPA

Prepared By: Tetra Tech



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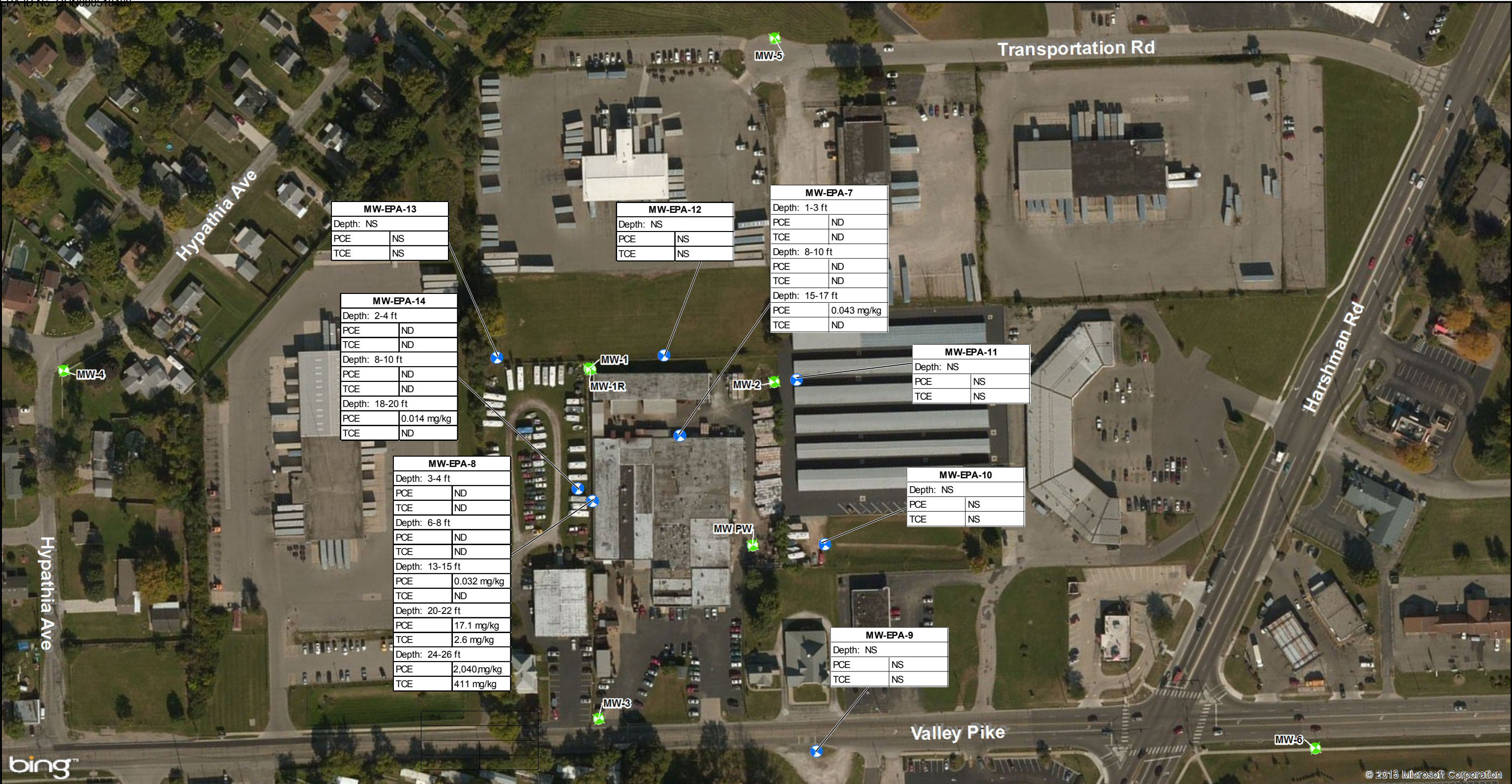
-  Vapor Probe Location – Installed Sept 2014
- ppbv = Parts per billion by volume
- J = Data qualified due to results being above upper range of calibration
- TCE = Trichloroethene
- PCE = Tetrachloroethene
- VOC = Volatile Organic Compounds



Valley Pike VOC Site
Riverside, Montgomery County, Ohio

Figure 7
Sub-Slab Vapor Sample
PCE and TCE Results





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Existing Monitoring Well Location

Monitoring Well Location – Installed Oct 2014

mg/L = Milligrams per liter

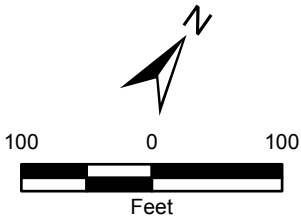
ND = Not detected

NS = Not sampled

TCE = Trichloroethene

PCE = Tetrachloroethene

VOC = Volatile Organic Compounds



Valley Pike VOC Site
Riverside, Montgomery County, Ohio

Figure 9
*Grab Groundwater Sample
PCE and TCE Results*

TETRA TECH

Prepared For: US EPA

Prepared By: Tetra Tech



Legend

- Existing Monitoring Well Location
- Monitoring Well Location – Installed Oct 2014

mg/L - Milligrams per liter
ND - Not detected
NS - Not sampled
TCE = Trichloroethene
PCE = Tetrachloroethene
VOC = Volatile Organic Compounds

Valley Pike VOC Site
Riverside, Montgomery County, Ohio

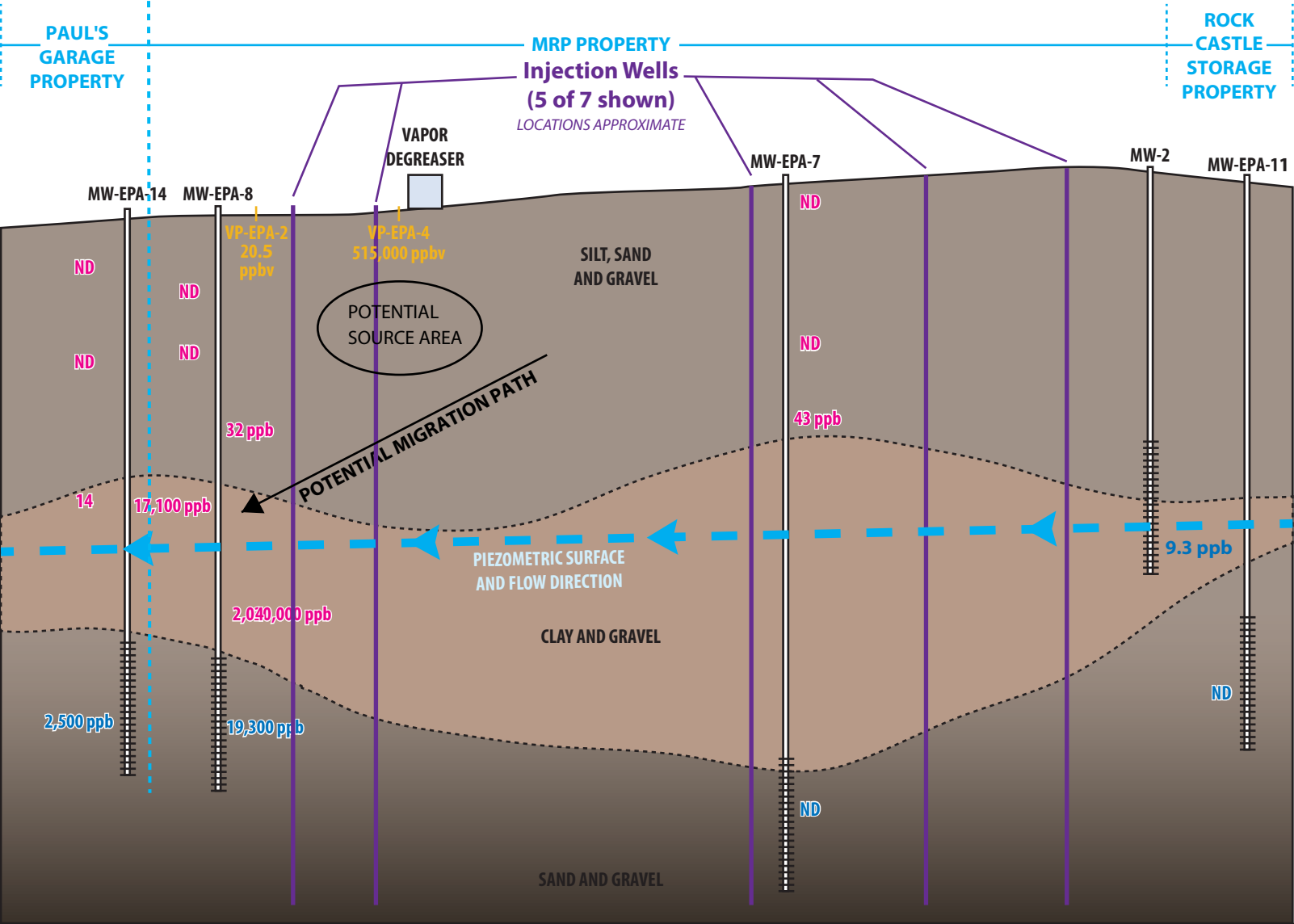
Figure 10
Groundwater Monitoring Well Sample
PCE and TCE Results

TETRA TECH

Prepared For: US EPA Prepared By: Tetra Tech

Source: Aerial Imagery, Bing Maps 2010

100 0 100
Feet



PCE Results Legend
MRP = Mullins Rubber Products
Yellow = sub-slab vapor PCE concentration; parts per billion by volume (ppbv)
Red = soil PCE-parts per billion (ppb)
Blue = groundwater PCE concentration ppb

VALLEY PIKE VOC SITE
RIVERSIDE, OHIO

FIGURE 11
PCE IN VAPOR, SOIL, WATER
CONCEPTUAL SITE MODEL



Tables

TABLE 1
SUMMARY OF MONITORING WELL AND PIEZOMETRIC ELEVATIONS
VALLEY PIKE VOC SITE
RIVERSIDE, MONTGOMERY COUNTY, OHIO

Well ID	Total Depth	TOC ELEVATION	10/13/2014			10/16/2014	
			DTW	GW-EL		DTW	GW-EL
MW-1	26.4	782.27	18.48	763.79		18.78	763.49
MW-1R	36.22	782.09	23.49	758.60		23.58	758.51
MW-2	27.14	783.57	22.32	761.25		22.36	761.21
MW-3	34	780.76	22.10	758.66		22.22	758.54
MW-4	34.61	781.74	25.32	756.42		25.39	756.35
MW-5	34.92	780.66	22.00	758.66		22.10	758.56
MW-6	36.5	779.48	19.74	759.74		20.35	759.13
MW-EPA-7	47.88	782.64	23.95	758.69		24.08	758.56
MW-EPA-8	39.7	781.5	22.86	758.64		22.95	758.55
MW-EPA-9	38.9	782.15	ND	ND		23.43	758.72
MW-EPA-10	39.79	781.76	23.00	758.76		23.00	758.76
MW-EPA-11	40.1	783.04	24.29	758.75		24.29	758.75
MW-EPA-12	41.1	782.22	23.58	758.64		23.65	758.57
MW-EPA-13	47.79	780.03	21.45	758.58		21.55	758.48
MW-EPA-14	39	780.57	21.91	758.66		22.40	758.17
Old PW (MW-PW)	48.97	784.32	25.54	758.78		25.61	758.71

Notes:

All values are in feet.

TOC - Top of Inner Casing

EL - Elevation relative to feet above mean sea level

DTW - Measured Depth to Groundwater on Date Indicated

GW EL - Groundwater Elevation on Date Indicated

ND - No Data; well not installed until 10/15/14

VOC - Volatile organic compound

TABLE 2
SUMMARY OF SUB-SLAB VAPOR ANALYTICAL DATA
VALLEY PIKE VOC SITE
RIVERSIDE, MONTGOMERY COUNTY, OHIO

			ANALYTICAL RESULTS BY LOCATION (units shown adjacent to parameter at left)										
Vapor Probe:			VP-EPA-1		VP-EPA-2		VP-EPA-3		VP-EPA-4		VP-EPA-5		VP-EPA-6
Date Sampled:			9/27 - 9/28/2014		9/27 - 9/28/2014		9/27 - 9/28/2014		9/27 - 9/28/2014		9/27 - 9/28/2014		9/27 - 9/28/2014
SUB-SLAB DATA:													
	Method	Units											
PCE	TO-15	ppbv	6.4 J		20.5 J		8.95 J		515,000		9,430		1,220
		µg/m ³	44.1 J		141 J		61.7 J		3,550,000		65,000		8,380
TCE	TO-15	ppbv	19 J		164		36.4 J		4,670		8,130		397
		µg/m ³	104 J		894		199 J		25,500		44,400		2,170
cDCE	TO-15	ppbv	0.397		ND		ND		1,000		ND		ND
		µg/m ³	1.6		ND		ND		4,040		ND		ND
Vinyl Chloride	TO-15	ppbv	ND		ND		ND		ND		ND		ND
		µg/m ³	ND		ND		ND		ND		ND		ND

Notes:

- ppbv - Parts per billion by volume
- µg/m³ - Micrograms per cubic meter
- J - Data qualified due to quality assurance/quality control results outside of control range; see laboratory analytical reports
- cDCE - *cis*-1,2-Dichloroethene
- ND - Not detected
- PCE - Tetrachloroethene
- TCE - Trichloroethene
- VOC - Volatile organic compound
- Method TO-15 analyses completed by Pace Analytical Laboratories, Minneapolis, Minnesota
- Analysis Completed September - October 2014

TABLE 3
SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL DATA
VALLEY PIKE VOC SITE
RIVERSIDE, MONTGOMERY COUNTY, OHIO

ANALYTICAL RESULTS BY LOCATION (units shown adjacent to parameter at left)																	
Boring/Well:			MW-1		MW-1R		MW-2		MW-3		MW-4		MW-5		MW-6		MW-PW
Depth (feet bgs):			NS		NS		NS		NS		NS		NS		NS		NS
Date Sampled:			NS		NS		NS		NS		NS		NS		NS		NS
SOIL DATA:																	
	Method	Units															
PCE	EPA 8260	mg/kg	NS		NS		NS		NS		NS		NS		NS		NS
		µg/kg	NS		NS		NS		NS		NS		NS		NS		NS
TCE	EPA 8260	mg/kg	NS		NS		NS		NS		NS		NS		NS		NS
		µg/kg	NS		NS		NS		NS		NS		NS		NS		NS
cDCE	EPA 8260	mg/kg	NS		NS		NS		NS		NS		NS		NS		NS
		µg/kg	NS		NS		NS		NS		NS		NS		NS		NS
Vinyl Chloride	EPA 8260	mg/kg	NS		NS		NS		NS		NS		NS		NS		NS
		µg/kg	NS		NS		NS		NS		NS		NS		NS		NS

Boring/Well:			MW-1	MW-1R	MW-2	MW-3	MW-4	MW-5	MW-6	MW-PW
Date Sampled:			NS	NS	NS	NS	NS	NS	NS	NS
GRAB GROUNDWATER DATA (collected during drilling):										
PCE	EPA 8260	mg/L	NS	NS	NS	NS	NS	NS	NS	NS
		µg/L	NS	NS	NS	NS	NS	NS	NS	NS
TCE	EPA 8260	mg/L	NS	NS	NS	NS	NS	NS	NS	NS
		µg/L	NS	NS	NS	NS	NS	NS	NS	NS
cDCE	EPA 8260	mg/L	NS	NS	NS	NS	NS	NS	NS	NS
		µg/L	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	EPA 8260	mg/L	NS	NS	NS	NS	NS	NS	NS	NS
		µg/L	NS	NS	NS	NS	NS	NS	NS	NS

Boring/Well:			MW-1	MW-1R	MW-2	MW-3	MW-4	MW-5	MW-6	MW-PW
Date Sampled:			10/30/2014	10/15/2014	10/14/2014	10/16/2014	10/16/2014	10/14/2014	10/14/2014	10/15/2014
MONITORING WELL (GROUNDWATER) DATA:										
PCE	EPA 8260	mg/L	ND	ND	0.0093	0.065	1.6	ND	ND	0.028
		µg/L	ND	ND	9.3	65	1,600	ND	ND	28
TCE	EPA 8260	mg/L	ND	ND	ND	ND	0.024	ND	ND	ND
		µg/L	ND	ND	ND	ND	24	ND	ND	ND
cDCE	EPA 8260	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
		µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	EPA 8260	mg/L	ND	ND	ND	ND	ND	ND	ND	ND
		µg/L	ND	ND	ND	ND	ND	ND	ND	ND

Notes: mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
mg/L - Milligrams per liter
µg/L - Micrograms per liter
bgs - Below ground surface
cDCE - *cis*-1,2-Dichloroethene
PCE - Tetrachloroethene

TCE - Trichloroethene
ND - Not detected
NA - Not analyzed
NS - Not sampled
VOC - Volatile organic compound
Method 8260 analyses completed by Pace Analytical Laboratories, Indianapolis, Indiana
Analysis Completed October-November 2014

TABLE 3
SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL DATA
VALLEY PIKE VOC SITE
RIVERSIDE, MONTGOMERY COUNTY, OHIO

ANALYTICAL RESULTS BY LOCATION (units shown adjacent to parameter at left)													
Boring/Well: Depth (feet bgs): Date Sampled:			MW-EPA-7			MW-EPA-8					MW-EPA-9	MW-EPA-10	MW-EPA-11
			1-3	8-10	15-17	3-4	6-8	13-15	20-22	24-26	NS	NS	NS
			10/09/2014			10/07/2014					NS	NS	NS
SOIL DATA:													
	Method	Units											
PCE	EPA 8260	mg/kg	ND	ND	0.043	ND	ND	0.032	17.1	2,040	NS	NS	NS
		µg/kg	ND	ND	43	ND	ND	32	17,100	2,040,000	NS	NS	NS
TCE	EPA 8260	mg/kg	ND	ND	ND	ND	ND	ND	2.6	411	NS	NS	NS
		µg/kg	ND	ND	ND	ND	ND	ND	2,600	411,000	NS	NS	NS
cDCE	EPA 8260	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS
		µg/kg	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS
Vinyl Chloride	EPA 8260	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS
		µg/kg	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS

Boring/Well: Date Sampled:			MW-EPA-7			MW-EPA-8					MW-EPA-9	MW-EPA-10	MW-EPA-11
			10/10/2014			10/7/2014					NS	NS	NS
			GRAB GROUNDWATER DATA (collected during drilling):										
PCE	EPA 8260	mg/L	ND			13.4					NS	NS	NS
		µg/L	ND			13,400					NS	NS	NS
TCE	EPA 8260	mg/L	ND			0.18					NS	NS	NS
		µg/L	ND			180					NS	NS	NS
cDCE	EPA 8260	mg/L	ND			ND					NS	NS	NS
		µg/L	ND			ND					NS	NS	NS
Vinyl Chloride	EPA 8260	mg/L	ND			ND					NS	NS	NS
		µg/L	ND			ND					NS	NS	NS

Boring/Well: Date Sampled:			MW-EPA-7			MW-EPA-8					MW-EPA-9	MW-EPA-10	MW-EPA-11
			10/15/2014			10/15/2014					10/16/2014	10/13/2014	10/13/2014
			MONITORING WELL (GROUNDWATER) DATA:										
PCE	EPA 8260	mg/L	ND			19.3					ND	0.034	ND
		µg/L	ND			19,300					ND	34	ND
TCE	EPA 8260	mg/L	ND			ND					ND	ND	ND
		µg/L	ND			ND					ND	ND	ND
cDCE	EPA 8260	mg/L	ND			ND					ND	ND	ND
		µg/L	ND			ND					ND	ND	ND
Vinyl Chloride	EPA 8260	mg/L	ND			ND					ND	ND	ND
		µg/L	ND			ND					ND	ND	ND

Notes: mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
mg/L - Milligrams per liter
µg/L - Micrograms per liter
bgs - Below ground surface
cDCE - *cis*-1,2-Dichloroethene
PCE - Tetrachloroethene

TCE - Trichloroethene
ND - Not detected
NA - Not analyzed
NS - Not sampled
VOC - Volatile organic compound
Method 8260 analyses completed by Pace Analytical Laboratories, Indianapolis, Indiana
Analysis Completed October-November 2014

TABLE 3
SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL DATA
VALLEY PIKE VOC SITE
RIVERSIDE, MONTGOMERY COUNTY, OHIO

ANALYTICAL RESULTS BY LOCATION (units shown adjacent to parameter at left)									
Boring/Well:			MW-EPA-12		MW-EPA-13		MW-EPA-14		
Depth (feet bgs):			NS		NS		2-4	8-10	18-20
Date Sampled:			NS		NS		10/09/2014		
SOIL DATA:									
	Method	Units							
PCE	EPA 8260	mg/kg	NS		NS		ND	ND	0.014
		µg/kg	NS		NS		ND	ND	14
TCE	EPA 8260	mg/kg	NS		NS		ND	ND	ND
		µg/kg	NS		NS		ND	ND	ND
cDCE	EPA 8260	mg/kg	NS		NS		ND	ND	ND
		µg/kg	NS		NS		ND	ND	ND
Vinyl Chloride	EPA 8260	mg/kg	NS		NS		ND	ND	ND
		µg/kg	NS		NS		ND	ND	ND

Boring/Well:			MW-EPA-12		MW-EPA-13		MW-EPA-14		
Date Sampled:			NS		NS		NS		
GRAB GROUNDWATER DATA (collected during drilling):									
PCE	EPA 8260	mg/L	NS		NS		NS		
		µg/L	NS		NS		NS		
TCE	EPA 8260	mg/L	NS		NS		NS		
		µg/L	NS		NS		NS		
cDCE	EPA 8260	mg/L	NS		NS		NS		
		µg/L	NS		NS		NS		
Vinyl Chloride	EPA 8260	mg/L	NS		NS		NS		
		µg/L	NS		NS		NS		

Boring/Well:			MW-EPA-12		MW-EPA-13		MW-EPA-14		
Date Sampled:			10/14/2014		10/14/2014		10/16/2014		
MONITORING WELL (GROUNDWATER) DATA:									
PCE	EPA 8260	mg/L	ND		ND		2.5		
		µg/L	ND		ND		2,500		
TCE	EPA 8260	mg/L	ND		ND		ND		
		µg/L	ND		ND		ND		
cDCE	EPA 8260	mg/L	ND		ND		ND		
		µg/L	ND		ND		ND		
Vinyl Chloride	EPA 8260	mg/L	ND		ND		ND		
		µg/L	ND		ND		ND		

Notes: mg/kg - Milligrams per kilogram
µg/kg - Micrograms per kilogram
mg/L - Milligrams per liter
µg/L - Micrograms per liter
bgs - Below ground surface
cDCE - *cis*-1,2-Dichloroethene
PCE - Tetrachloroethene

TCE - Trichloroethene
ND - Not detected
NA - Not analyzed
NS - Not sampled
VOC - Volatile organic compound
Method 8260 analyses completed by Pace Analytical Laboratories, Indianapolis, Indiana
Analysis Completed October-November 2014

Appendix A

Mullins Rubber Products Inc. Site Drainage System Details

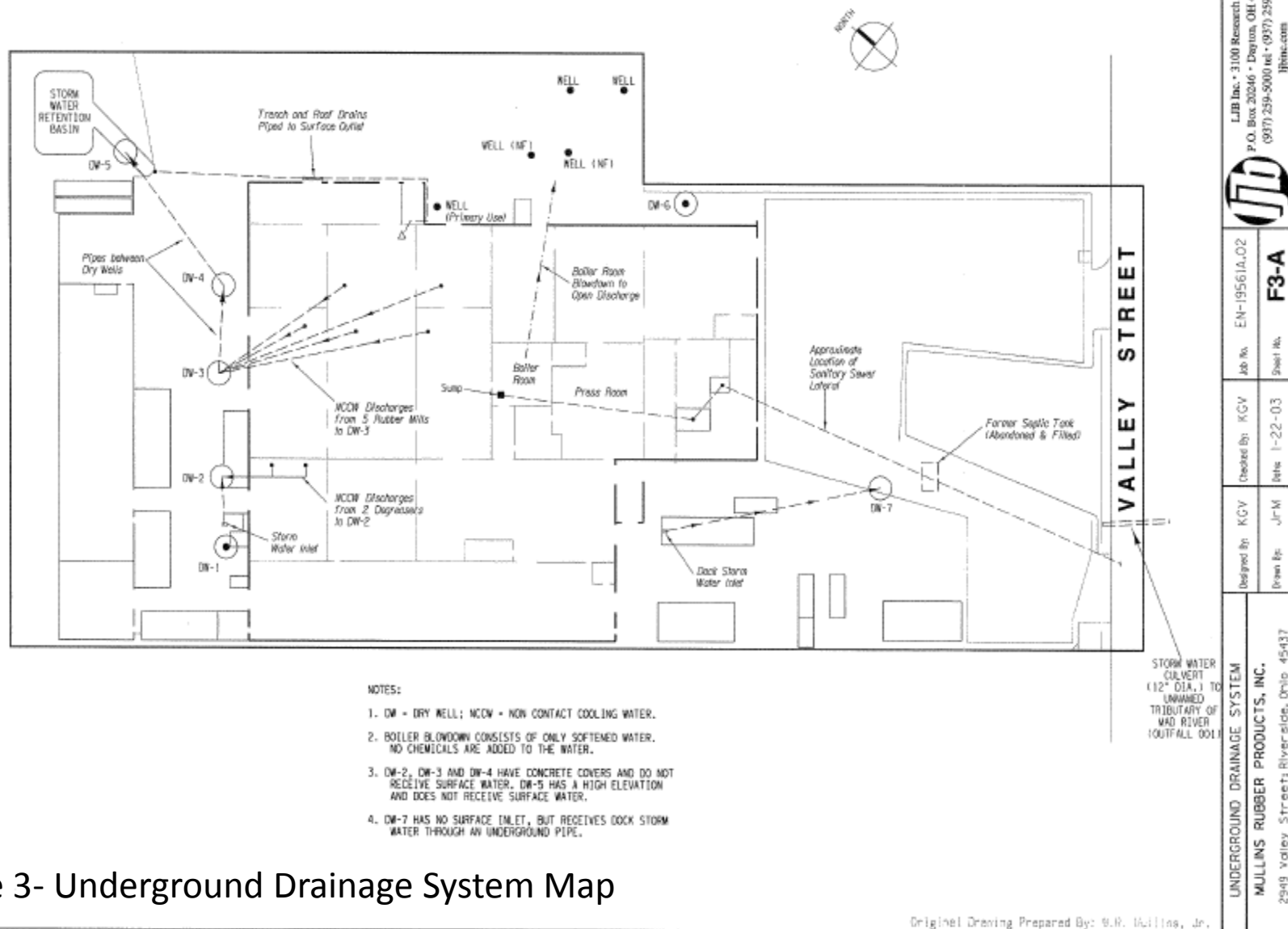


Figure 3- Underground Drainage System Map

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

438258

County Montg. Township Mad River Section of Township Rehees Little Farms
Owner Mullin Rubber Co Address 2949 Valley Pike
Location of property Same

CONSTRUCTION DETAILS	BAILING OR PUMPING TEST (Specify one by circling)
Casing diameter <u>5 3/8</u> Length of casing <u>50</u>	Test Rate <u>50</u> G.P.M. Duration of test _____ hrs
Type of screen _____ Length of screen _____	Drawdown _____ ft. Date _____
Type of pump _____	Static level-depth to water _____ ft.
Capacity of pump _____	Quality (clear, cloudy, taste, odor) _____
Depth of pump setting _____	_____
Date of completion _____	Pump installed by _____

WELL LOG*			SKETCH SHOWING LOCATION
Formations Sandstone, shale, limestone, gravel and clay	From	To	Locate in reference to numbered State Highways, St. Intersections, County roads, etc.
<u>Top Soil</u>	<u>0 Feet</u>	<u>5 Ft.</u>	<u>N.</u>
<u>Dry Gravel</u>	<u>5</u>	<u>25</u>	
<u>Blue Clay</u>	<u>25</u>	<u>37</u>	
<u>Watered Gravel</u>	<u>37</u>	<u>50</u>	
<u>Return Dry Well</u>			<u>W.</u>
<u>Used for Returning</u>			
<u>Water Back To Ground</u>			
<u>1448</u>			<u>S.</u>

Drilling Firm P.E. Letts & Son Date 7-11-72
Address 2413 Valley St Signed [Signature]





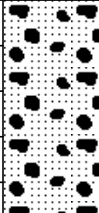

*If additional space is needed to complete well log, use next consecutive numbered form.

Appendix B

Boring Logs and Monitoring Well Construction Details

Tetra Tech Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

PROJECT NAME: Valley Pike	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-7	SHEET: 1 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 782.64	
SITE NAME: Mullins	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 48	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/9/14	FINISH DATE: 10/9/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		ASPHALT Asphalt & concrete paving material	S-1	0	100		
		SILTY CLAY Brown stiff silty clay with some gravel		1.0	100		
				0	100		
5		SAND and GRAVEL Brown sand & gravel, moist	S-2	0.7	100		
				0.9	100		
		Petroleum odor from 8-10' bgs		8.2	100		
				12.3	100		
10				15.1	100		
				0.3	100		
				0.3	100		
				4.4	100		
15				8.5	100		
				8.8	100		
				13.1	100		
				15.9	100		
		CLAY and GRAVEL Grey very dense clay and gravel till		0.0	100		
20				0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
25				0.0	100		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech EM Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202


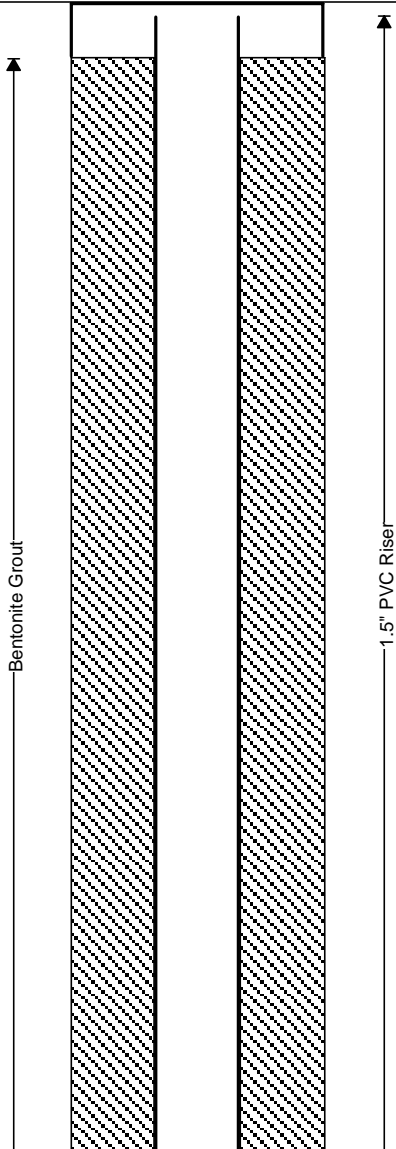
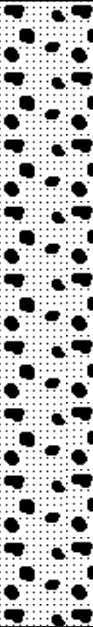

PROJECT NAME: Valley Pike	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-7	SHEET: 2 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 782.64	
SITE NAME: Mullins	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 48	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/9/14	FINISH DATE: 10/9/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
30		SAND and GRAVEL Brown loose sand & gravel, wet		0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
35		SAND Brown loose fine sand		0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
40		SAND Brown loose fine sand		0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
45		SAND Brown loose fine sand		0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
50		SAND Brown loose fine sand		0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		
				0.0	100		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Tetra Tech Inc.
250 W. Court St., Suite 200W
Cincinnati, Ohio 45202

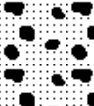

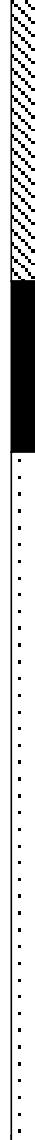




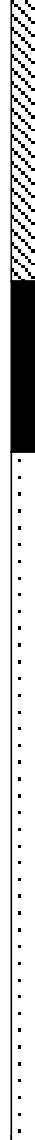
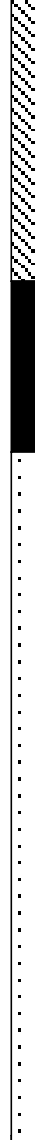





PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Envirocore	BOREHOLE #: MW-EPA-8	SHEET: 1 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 781.5	
SITE NAME: Valley Street	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 40	
COUNTY: Montgomery	DRILLER: Adam	STATIC WATER LEVEL: 22'	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: DPT	START DATE: 10/7/14	FINISH DATE: 10/7/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		GRAVEL Light brown loose gravel Some clay at 3.5' bgs Slight petroleum odor at 4' bgs	0-1	0.0	100		
			1-2	0.0	100		
			2-3	0.0	100		
			3-4*	0.0	100		
5		SAND and GRAVEL Brown loose sand & gravel	4-5	0.0	100		
			5-6	0.0	100		
			6-8*	0.0	100		
			8-9	0.0	100		
10			9-10	0.0	100		
			10-11	0.7	100		
			11-12	0.9	100		
			12-13	0.8	100		
			13-15*	0.9	100		
15		CLAY and GRAVEL Brown stiff clay and gravel till Fine to coarse gravel	15-16	0.0	100		
			16-17	0.0	100		
			17-18	0.0	100		
			18-19	3.1	100		
20			19-20	4.2	100		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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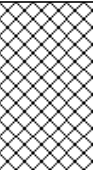
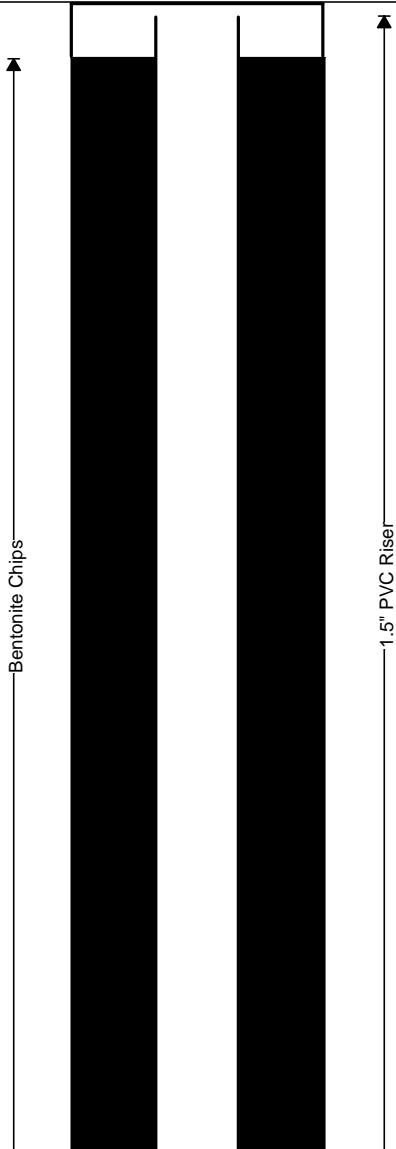
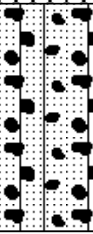
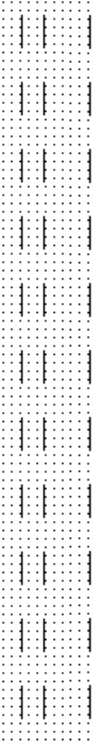
PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Envirocore	BOREHOLE #: MW-EPA-8	SHEET: 2 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 781.5	
SITE NAME: Valley Street	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 40	
COUNTY: Montgomery	DRILLER: Adam	STATIC WATER LEVEL: 22'	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: DPT	START DATE: 10/7/14	FINISH DATE: 10/7/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		SAND and GRAVEL Brown loose coarse gravel with some sand Wet	20-22*	8.7	100		
		CLAY and GRAVEL Grey very stiff & tight clay & gravel till	22-23	10.8	100		
			23-24	6.0	100		
25		Strong solvent odor at 25' bgs	24-25	10.4	100		
			25-26	3700	100		
			26-27	3000	100		
			27-28	600	100		
		SAND and GRAVEL Brown loose sand & gravel Wet	28-29	0.0	100		
30			29-30	1.7	100		
			30-31	1.6	100		
			31-32	0.3	100		
			32-33	0.1	100		
			33-34	0.1	100		
35			34-35	0.1	100		
			35-36	0.0	100		
			36-37	0.0	100		
			37-38	0.0	100		
			38-39	0.0	100		
			39-40	0.0	100		
40							

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Envirocore	BOREHOLE #: MW-EPA-9	SHEET: 1 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 781.5	
SITE NAME: Valley Street	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 40	
COUNTY: Montgomery	DRILLER: Adam	STATIC WATER LEVEL: 23.6	
CITY, STATE: Dayton, OH	LOGGED BY: Guy Montfort	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: DPT	START DATE: 10/15/14	FINISH DATE: 10/15/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		FILL Fill, gravel and misc trash	0-1	0.0	100		
			1-2	0.0	100		
			2-3	0.0	100		
		SILTY SAND and GRAVEL Brown silty sand & gravel	3-4	0.0	100		
5		Grades to clayey silt with fine & coarse sand & gravel	4-5	0.0	100		
			5-6	0.0	100		
		SILTY SAND Brown fine sand with silt and fine gravel	6-8	0.0	100		
			8-9	0.0	100		
10			9-10	0.0	100		
		Grades to more coarse sand Lighter brown	10-11	0.0	100		
			11-12	0.0	100		
		More silt	12-13	0.0	100		
15			13-15	0.0	100		
			15-16	0.0	100		
		Orange oxidation at 20-21' bgs	16-17	0.0	100		
			17-18	0.0	100		
		slight petroleum odor at 24' bgs	18-19	0.0	100		
			19-20	0.0	100		
20							

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Envirocore	BOREHOLE #: MW-EPA-9	SHEET: 2 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 781.5	
SITE NAME: Valley Street	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 40	
COUNTY: Montgomery	DRILLER: Adam	STATIC WATER LEVEL: 23.6	
CITY, STATE: Dayton, OH	LOGGED BY: Guy Montfort	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: DPT	START DATE: 10/15/14	FINISH DATE: 10/15/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
			20-22*	0.0	100		
			22-23	0.0	100		
			23-24	0.0	100		
			24-25	0.0	100		
25	CLAYEY SILT Brown hard clayey silt with trace of fine gravel		25-26	0.0	100		
	SILTY SAND and GRAVEL Brown fine to coarse sand & gravel with silt		26-27	0.0	100		
			27-28	0.0	100		
			28-29	0.0	100		
			29-30	0.0	100		
30			30-31	0.0	100		
			31-32	0.0	100		
		Sand grades to medium & coarse with more coarse gravel at 33-35' bgs	32-33	0.0	100		
			33-34	0.0	100		
		Grades to mostly gravel	34-35	0.0	100		
35			35-36	0.0	100		
			36-37	0.0	100		
			37-38	0.0	100		
			38-39	0.0	100		
			39-40	0.0	100		
40							

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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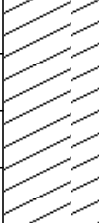


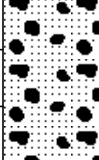


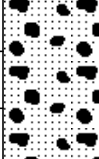

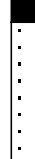

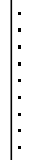

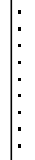

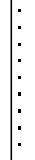


PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-10	SHEET: 1 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 781.76	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 40	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Guy Montfort	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/7/14	FINISH DATE: 10/7/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div>		SILTY CLAY and GRAVEL Brown Clayey silt with gravel	0-1	0.0	50		
			1-2	0.0	50		
			2-3	0.0	50		
			3-4	0.0	50		
		SILTY SAND and GRAVEL Brown silty fine to coarse sand & gravel	4-5	0.0	50		
		Odor at 7-9' bgs	5-6	0.0	50		
		Grades to less silt at 15' bgs	6-8	0.0	50		
			7-9	1.0	50		
		More coarse gravel with cobbles	8-9	1.0	50		
			9-10	1.0	50		
			10-11	1.0	50		
			11-12	1.0	50		
			12-13	1.0	50		
			13-15	1.0	50		
			15-16	1.0	50		
			16-17	1.0	50		
			17-18	1.0	50		
			18-19	1.0	50		
			19-20	1.0	50		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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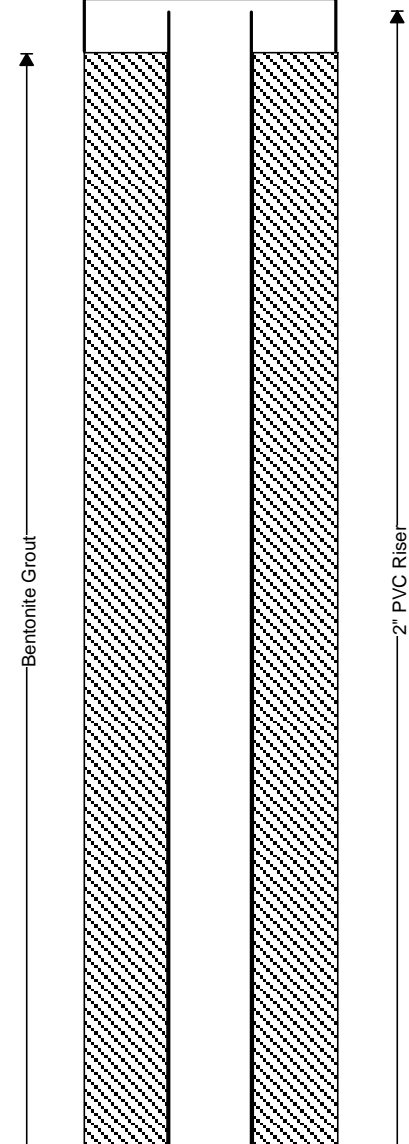







PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-10	SHEET: 2 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 781.76	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 40	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Guy Montfort	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/7/14	FINISH DATE: 10/7/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		CLAY Brown hard clay till with fine gravel slightly moist	20-22	0.5	100		
			22-23	0.5	100		
			23-24	0.5	100		
25		SAND and GRAVEL Brown fine to coarse gravel with coarse sand	24-25	0.5	100		
			25-26	0.5	100		
			26-27	0.5	100		
		SAND and GRAVEL Brown fine to coarse sand & gravel	27-28	0.5	100		
			28-29	0.5	100		
			29-30	0.8	100		
30			30-31	0.8	100		
			31-32	0.8	100		
			32-33	0.8	100		
		Sand grades to medium & coarse with more coarse gravel at 33-35' bgs	33-34	0.8	100		
			34-35	0.8	100		
35			35-36	0.6	100		
		Grades to mostly gravel	36-37	0.6	100		
			37-38	1.2	100		
			38-39	1.2	100		
40			39-40	1.2	100		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-11	SHEET: 1 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 783.04	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 39	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/6/14	FINISH DATE: 10/6/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		ASPHALT Asphalt paving material	0-1	0.0	90		
		GRAVEL Grey loose gravel fill	1-2	0.0	90		
		CLAYEY GRAVEL Dark tan loose clayey gravel	2-3	0.0	90		
			3-4	0.0	90		
5		SAND and GRAVEL Brown sand & gravel	4-5	0.0	90		
			5-6	0.0	90		
			6-8	0.0	90		
			7-9	0.0	90		
			8-9	0.0	90		
10			9-10	0.0	90		
		SAND Light brown loose medium sand with some medium gravel	10-11	0.0	90		
			11-12	0.0	90		
		SILTY CLAY Brown medium stiff silty clay till with some fine to coarse gravel	12-13	0.0	90		
15			13-15	0.0	90		
		SILTY CLAY Grey very stiff silty clay till with some fine to coarse gravel	15-16	0.0	90		
			16-17	0.0	90		
			17-18	0.0	90		
		GRAVEL Light brown loose coarse gravel	18-19	0.0	90		
20		Wet at 20' bgs	19-20	0.0	90		

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
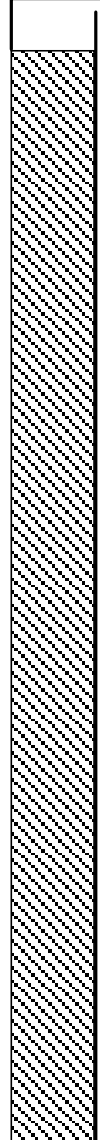
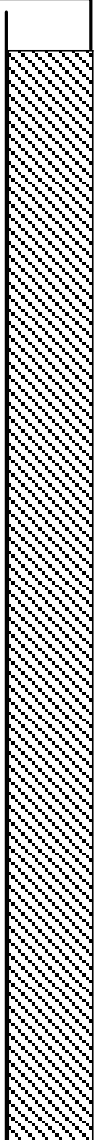

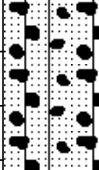


PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-11	SHEET: 2 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 783.04	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 39	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/6/14	FINISH DATE: 10/6/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
25		SILTY CLAY Grey very stiff silty clay till with fine to coarse gravel	20-22	0.0	100	
			22-23	0.0	100	
			23-24	0.0	100	
			24-25	0.0	100	
			25-26	0.0	100	
30		SAND and GRAVEL Light grey loose fine to coarse sand & gravel	26-27	0.0	100	
			27-28	0.0	100	
			28-29	0.0	100	
			29-30	0.0	100	
			30-31	0.0	100	
35		SILTY CLAY Grey stiff silty clay till with fine to coarse gravel	31-32	0.0	100	
			32-33	0.0	100	
			33-34	0.0	100	
			34-35	0.0	100	
			35-36	0.0	100	
			36-37	0.0	100	
			37-38	0.0	100	
			38-39	0.0	100	
			39-40	0.0	100	

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-12	SHEET: 1 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 782.22	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 41.5	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Guy Montfort	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/7/14	FINISH DATE: 10/7/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		TOPSOIL Brown topsoil to 6" bgs	0-1	0.0	100		
		SILT Brown silt slightly moist Grades to gravely silt	1-2	0.0	100		
			2-3	0.0	100		
			3-4	0.0	0		
			4-5	0.0	20		
5			5-6	0.0	100		
			6-8	0.0	100		
		SILTY SAND and GRAVEL Grey-brown silty fine sand & gravel Petroleum odor at 7-9' bgs	7-9	0.0	100		
			8-9	0.9	100		
10		Grades more silt & gravel	9-10	1.8	100		
		More coarse gravel & cobble fragments	10-11	0.0	100		
			11-12	0.0	100		
			12-13	1.1	100		
			13-15	0.0	100		
15			15-16	0.0	100		
			16-17	0.0	100		
			17-18	2.2	100		
		SILTY CLAY Grey dense silty clay till with trace gravel	18-19	0.0	100		
		SILTY SAND Brown silty fine to coarse sand with fine to coarse gravel Moist, trace clay & cobbles	19-20	0.0	100		
20			20-22	0.0	100		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-12	SHEET: 2 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 782.22	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 41.5	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Guy Montfort	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/7/14	FINISH DATE: 10/7/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		SILTY CLAY Grey dense silty clay till with cobbles	20-22				
			22-23	0.0	100		
			23-24	0.0	100		
			24-25	0.0	100		
26		SILTY CLAY and GRAVEL Grey dense silty clay till with fine gravel	25-26	0.0	100		
			26-27	0.0	100	Bentonite seal	
		Grades more silty	27-28	0.1	100		
			28-29	0.0	100		
			29-30	0.0	100		
31		SAND and GRAVEL Brown sand & gravel, wet	30-31	0.0	100		
			31-32	0.0	100	20/40 Sand pack	2" 0.010 Slot PVC Screen
			32-33	0.0	100		
			33-34	0.0	100		
			34-35	0.0	100		
36			35-36	0.0	100		
			36-37	0.0	100		
			37-38	0.0	100		
			38-39	0.0	100		
			39-40	0.0	100		
41							

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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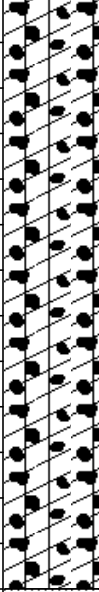
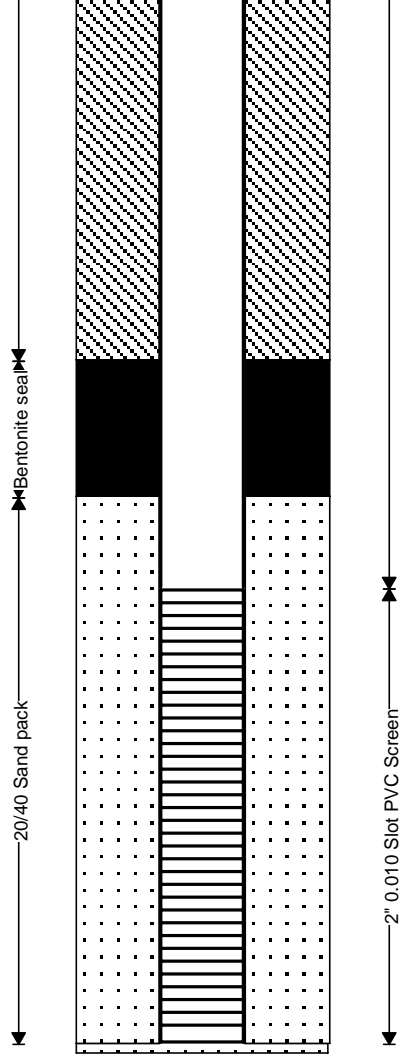
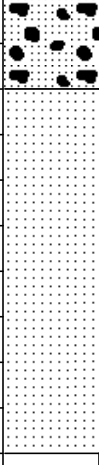
PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-13	SHEET: 1 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 780.03	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 48	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/8/14	FINISH DATE: 10/8/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		TOPSOIL Brown topsoil to 6" bgs	0-1	0.0	100	Bentonite Grout	2" PVC Riser
		SAND and GRAVEL Brown loose fine to coarse sand & gravel	1-2	0.0	100		
			2-3	0.0	100		
			3-4	0.0	100		
5		Slight petroleum odor at 9-10' bgs	4-5	0.0	100		
			5-6	0.0	100		
			6-8	0.0	100		
			7-9	0.0	100		
			8-9	0.6	100		
10			9-10	0.8	100		
			10-11	0.0	100		
			11-12	0.0	100		
			12-13	0.0	100		
			13-15	0.0	100		
15		CLAY and GRAVEL Grey-brown clay and gravel till, moist	15-16	0.0	100		
			16-17	0.0	100		
		SAND and GRAVEL Brown loose sand & gravel with some clay	17-18	0.0	100		
			18-19	0.5	100		
20			19-20	0.3	100		
		CLAY and GRAVEL Grey very hard & tight clay & gravel till	20-22	0.0	100		
			22-23	0.0	100		
			23-24	0.0	100		
25			24-25	0.0	100		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-13	SHEET: 2 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 780.03	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 48	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/8/14	FINISH DATE: 10/8/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)	
30		SAND and GRAVEL Brown loose sand & gravel	25-26	0.0	100	
			26-27	0.0	100	
			27-28	0.0	100	
			28-29	0.0	100	
			29-30	0.0	100	
			30-31	0.0	100	
			31-32	0.0	100	
			32-33	0.0	100	
			33-34	0.0	100	
			34-35	0.0	100	
35			35-36	0.0	100	
			36-37	0.0	100	
			37-38	0.0	100	
40		SAND Grey loose fine sand	38-39	0.0	100	
			39-40	0.0	100	
			40-41	0.0	100	
			41-42	0.0	100	
			42-43	0.0	100	
			43-44	0.0	100	
			44-45	0.0	100	
			45-46	0.0	100	
			46-47	0.0	100	
			47-48	0.0	100	
50						

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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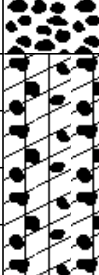
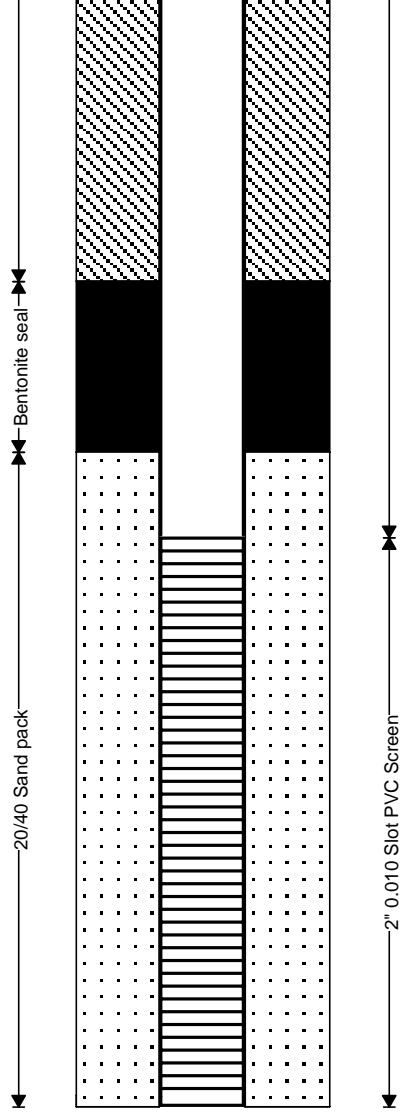
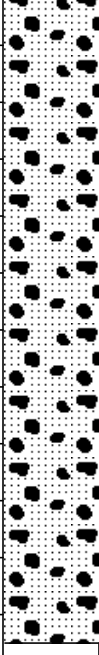
PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-14	SHEET: 1 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 780.57	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 39.5	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/9/14	FINISH DATE: 10/9/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
		TOPSOIL Brown topsoil & gravel to 6" bgs	0-1	0.0	100	Bentonite Grout	2" PVC Riser
		CLAYEY GRAVEL Light brown clayey gravel with some sand	1-2	0.0	100		
			2-4*	0.0	100		
			4-5	0.0	100		
5		SAND and GRAVEL Light brown loose sand & gravel	5-6	8.3	100		
			6-7	8.0	100		
		Some clay at 11' bgs	7-9	8.1	100		
			8-10*	18.1	100		
10			10-11	1.3	100		
			11-12	2.1	100		
			12-13	2.2	100		
			13-15	0.8	100		
15			14-15	0.7	100		
			15-16	0.3	100		
			16-17	0.3	100		
			17-18	1.9	100		
20			18-20*	11.1	100		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

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PROJECT NAME: Valley Pike VOC	DRILLING COMPANY: Cascade	BOREHOLE #: MW-EPA-14	SHEET: 2 of 2
PROJECT NUMBER: 103I90260001S1404011	RIG TYPE: Rotasonic	ELEVATION: 780.57	
SITE NAME: Valley Pike	BORING TYPE: MW <input checked="" type="checkbox"/> PIEZO <input type="checkbox"/> SB <input type="checkbox"/>	TOTAL DEPTH: 39.5	
COUNTY: Montgomery	DRILLER: Ray	STATIC WATER LEVEL: Not Measured	
CITY, STATE: Dayton, OH	LOGGED BY: Kevin Losekamp	BOREHOLE DIAMETER: 6"	
PROJECT MANAGER: Guy Montfort	SAMPLING METHOD: Sonic	START DATE: 10/9/14	FINISH DATE: 10/9/14

SUBSURFACE PROFILE			SAMPLE			WELL CONSTRUCTION	
DEPTH (FT)	LITHOLOGY	DESCRIPTION	SAMPLE ID	PID (ppm) "bagged"	RECOVERY (%)		
25		GRAVEL Brown coarse gravel wet	20-21	10.8	100		
		CLAY and GRAVEL Grey very hard & tight clay & gravel till	21-22	2.2	100		
			22-23	1.1	100		
			23-24	2.1	100		
			24-25	8.8	100		
			25-26	6.6	100		
			26-27	0.0	100		
			27-28	0.0	100		
30		SAND and GRAVEL Brown loose sand & gravel	28-29	2.1	100		
			29-30	3.3	100		
			30-31	10.1	100		
			31-32	2.1	100		
			32-33	1.9	100		
			33-34	1.9	100		
			34-35	1.0	100		
			35-36	1.0	100		
			36-37	1.3	100		
			37-38	2.3	100		
			38-39	1.8	100		
			39-40	1.3	100		

NOTES: ft or ' = feet bgs = below ground surface * = Indicates Sample Submitted for Laboratory Analysis

Appendix C

Sub-Slab Vapor Analytical Data Validation Report

Note: Project file contains full laboratory data reports.



DATA VALIDATION CHECKLIST – STAGE 4

(Page 1 of 6)

Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/19/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	10283276	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – TO-15		
Samples	VP-EPA-1-092714, VP-EPA-2-092714, VP-EPA-3-092714, VP-EPA-4-092714, VP-EPA-5-092714, and VP-EPA-6-092714		
Field Blanks	VP-EPA-6-092714 and VP-EPA-FD-092714		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
	Received a can (1282103013) not listed on the COC – lab instructed not to analyze

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 2 of 6)

Initial Calibration:

Within Criteria	Exceedance/Notes
	<p>09/30/14 (11:10-16:26):</p> <p>RRF and %RSD exceeded criteria for trans-1,2-dichloroethene – flag “R” for non-detects for EPA-4-092714, VP-EPA-5-092714, and VP-EPA-6-092714</p> <p>RRF exceeded criteria for 1,1-dichloroethane; 1,2-dichloropropane; bromodichloromethane; cis-1,3-dichloropropene; toluene; ethylbenzene; m,p-xylenes; o-xylene; 1,3-dichlorobenzene; 1,4-dichlorobenzene – flag “R” for non-detects for EPA-4-092714, VP-EPA-5-092714, and VP-EPA-6-092714</p> <p>09/30/14 (11:17-14:41):</p> <p>%RSD exceeded criteria for trichloroethene and tetrachloroethene – flag trichloroethene “J” for VP-EPA-1-092714 and VP-EPA-3-092714 and tetrachloroethene “J” for VP-EPA-1-092714, VP-EPA-2-092714, and VP-EPA-3-092714</p>

Continuing Calibration:

Within Criteria	Exceedance/Notes
	%D exceeded criteria for trans-1,2-dichloroethene – associated results already flagged “R”

Calibration Verification:

Within Criteria	Exceedance/Notes
X	

Method blanks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 3 of 6)

Field blanks:

Within Criteria	Exceedance/Notes
	None included in data package.

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
	Not required for air samples.

MS/MSD:

Within Criteria	Exceedance/Notes
	Not required for air samples.

Field duplicates:

Within Criteria	Exceedance/Notes
X	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 4 of 6)

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
X	

Sample dilutions:

Within Criteria	Exceedance/Notes
	<div> <div>1.55x: VOCs for VP-EPA-1-092714</div> <div>1.61x: VOCs except trichloroethene for VP-EPA-2-092714</div> <div>77.5x: Trichloroethene for VP-EPA-2-092714</div> <div>1.61x: VOCs for VP-EPA-3-092714</div> </div> <div> <div>537.6x: VOCs except tetrachloroethene for VP-EPA-4-092714</div> <div>17203.2x: Tetrachloroethene for VP-EPA-4-092714</div> <div>992x: VOCs for VP-EPA-5-092714</div> <div>84x: VOCs for VP-EPA-6-092714</div> <div>74.5x: VOCs for VP-EPA-FD-092714</div> </div>

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None were required

Internal Standards:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 5 of 6)

Target analyte identification:

Within Criteria	Exceedance/Notes
X	<u>Manual integrations required:</u> VP-EPA-1-092714 – benzene VP-EPA-2-092714 – benzene; ethylbenzene; n-hexane; 4-methyl-2-pentanone; vinyl acetate; m,p-xylenes; and o-xylene VP-EPA-3-092714 – benzene and ethanol

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action

System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 6 of 6)

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-1-092714		Lab ID: 10283276003	Collected: 09/28/14 14:32	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Acetone	6.0 ug/m3		3.7	1.55		09/30/14 19:03	67-64-1	
Benzene	0.52 ug/m3		0.50	1.55		09/30/14 19:03	71-43-2	
Benzyl chloride	ND ug/m3		4.1	1.55		09/30/14 19:03	100-44-7	
Bromodichloromethane	ND ug/m3		2.1	1.55		09/30/14 19:03	75-27-4	
Bromoform	ND ug/m3		3.3	1.55		09/30/14 19:03	75-25-2	
Bromomethane	ND ug/m3		1.2	1.55		09/30/14 19:03	74-83-9	
1,3-Butadiene	ND ug/m3		0.70	1.55		09/30/14 19:03	106-99-0	
2-Butanone (MEK)	1.4 ug/m3		0.93	1.55		09/30/14 19:03	78-93-3	
Carbon disulfide	ND ug/m3		0.98	1.55		09/30/14 19:03	75-15-0	
Carbon tetrachloride	ND ug/m3		2.0	1.55		09/30/14 19:03	56-23-5	
Chlorobenzene	ND ug/m3		1.5	1.55		09/30/14 19:03	108-90-7	
Chloroethane	ND ug/m3		0.84	1.55		09/30/14 19:03	75-00-3	
Chloroform	ND ug/m3		0.77	1.55		09/30/14 19:03	67-66-3	
Chloromethane	ND ug/m3		0.65	1.55		09/30/14 19:03	74-87-3	
Cyclohexane	ND ug/m3		1.1	1.55		09/30/14 19:03	110-82-7	
Dibromochloromethane	ND ug/m3		2.7	1.55		09/30/14 19:03	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/m3		2.4	1.55		09/30/14 19:03	106-93-4	
1,2-Dichlorobenzene	ND ug/m3		1.9	1.55		09/30/14 19:03	95-50-1	
1,3-Dichlorobenzene	ND ug/m3		1.9	1.55		09/30/14 19:03	541-73-1	
1,4-Dichlorobenzene	ND ug/m3		1.9	1.55		09/30/14 19:03	106-46-7	
Dichlorodifluoromethane	3.0 ug/m3		1.6	1.55		09/30/14 19:03	75-71-8	
1,1-Dichloroethane	ND ug/m3		1.3	1.55		09/30/14 19:03	75-34-3	
1,2-Dichloroethane	ND ug/m3		0.64	1.55		09/30/14 19:03	107-06-2	
1,1-Dichloroethene	ND ug/m3		1.3	1.55		09/30/14 19:03	75-35-4	
cis-1,2-Dichloroethene	1.6 ug/m3		1.3	1.55		09/30/14 19:03	156-59-2	
trans-1,2-Dichloroethene	ND ug/m3		1.3	1.55		09/30/14 19:03	156-60-5	
1,2-Dichloropropane	ND ug/m3		1.5	1.55		09/30/14 19:03	78-87-5	
cis-1,3-Dichloropropene	ND ug/m3		1.4	1.55		09/30/14 19:03	10061-01-5	
trans-1,3-Dichloropropene	ND ug/m3		1.4	1.55		09/30/14 19:03	10061-02-6	
Dichlorotetrafluoroethane	ND ug/m3		2.2	1.55		09/30/14 19:03	76-14-2	
Ethanol	ND ug/m3		1.5	1.55		09/30/14 19:03	64-17-5	
Ethyl acetate	ND ug/m3		1.1	1.55		09/30/14 19:03	141-78-6	
Ethylbenzene	ND ug/m3		1.4	1.55		09/30/14 19:03	100-41-4	
4-Ethyltoluene	ND ug/m3		1.6	1.55		09/30/14 19:03	622-96-8	
n-Heptane	ND ug/m3		1.3	1.55		09/30/14 19:03	142-82-5	
Hexachloro-1,3-butadiene	ND ug/m3		3.4	1.55		09/30/14 19:03	87-68-3	
n-Hexane	ND ug/m3		1.1	1.55		09/30/14 19:03	110-54-3	
2-Hexanone	ND ug/m3		1.3	1.55		09/30/14 19:03	591-78-6	
Methylene Chloride	ND ug/m3		5.5	1.55		09/30/14 19:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/m3		3.2	1.55		09/30/14 19:03	108-10-1	
Methyl-tert-butyl ether	ND ug/m3		1.1	1.55		09/30/14 19:03	1634-04-4	
Napthalene	ND ug/m3		4.1	1.55		09/30/14 19:03	91-20-3	
2-Propanol	ND ug/m3		1.9	1.55		09/30/14 19:03	67-63-0	
Propylene	0.54 ug/m3		0.54	1.55		09/30/14 19:03	115-07-1	
Styrene	ND ug/m3		1.3	1.55		09/30/14 19:03	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/m3		1.1	1.55		09/30/14 19:03	79-34-5	
Tetrachloroethene	44.1 ug/m3		1.1	1.55		09/30/14 19:03	127-18-4	

REPORT OF LABORATORY ANALYSIS

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Date: 10/01/2014 05:03 PM

10283276

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gpw
01/19/15

ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-1-092714		Lab ID: 10283276003	Collected: 09/28/14 14:32	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Tetrahydrofuran	ND	ug/m3	0.93	1.55		09/30/14 19:03	109-99-9	
Toluene	1.9	ug/m3	1.2	1.55		09/30/14 19:03	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.3	1.55		09/30/14 19:03	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.7	1.55		09/30/14 19:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.85	1.55		09/30/14 19:03	79-00-5	
Trichloroethene	104	ug/m3	0.85	1.55		09/30/14 19:03	79-01-6	
Trichlorofluoromethane	1.9	ug/m3	1.8	1.55		09/30/14 19:03	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.5	1.55		09/30/14 19:03	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/30/14 19:03	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.5	1.55		09/30/14 19:03	108-67-8	
Vinyl acetate	ND	ug/m3	1.1	1.55		09/30/14 19:03	108-05-4	
Vinyl chloride	ND	ug/m3	0.40	1.55		09/30/14 19:03	75-01-4	
m&p-Xylene	ND	ug/m3	2.7	1.55		09/30/14 19:03	179601-23-1	
o-Xylene	ND	ug/m3	1.4	1.55		09/30/14 19:03	95-47-6	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-2-092714		Lab ID: 10283276002	Collected: 09/28/14 13:56	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Acetone	17.0	ug/m3	3.9	1.61		09/30/14 18:38	67-64-1	
Benzene	1.4	ug/m3	0.52	1.61		09/30/14 18:38	71-43-2	
Benzyl chloride	ND	ug/m3	4.2	1.61		09/30/14 18:38	100-44-7	
Bromodichloromethane	ND	ug/m3	2.2	1.61		09/30/14 18:38	75-27-4	
Bromoform	ND	ug/m3	3.4	1.61		09/30/14 18:38	75-25-2	
Bromomethane	ND	ug/m3	1.3	1.61		09/30/14 18:38	74-83-9	
1,3-Butadiene	ND	ug/m3	0.72	1.61		09/30/14 18:38	106-99-0	
2-Butanone (MEK)	2.0	ug/m3	0.97	1.61		09/30/14 18:38	78-93-3	
Carbon disulfide	1.0	ug/m3	1.0	1.61		09/30/14 18:38	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.1	1.61		09/30/14 18:38	56-23-5	
Chlorobenzene	ND	ug/m3	1.5	1.61		09/30/14 18:38	108-90-7	
Chloroethane	ND	ug/m3	0.87	1.61		09/30/14 18:38	75-00-3	
Chloroform	ND	ug/m3	0.80	1.61		09/30/14 18:38	67-66-3	
Chloromethane	ND	ug/m3	0.68	1.61		09/30/14 18:38	74-87-3	
Cyclohexane	ND	ug/m3	1.1	1.61		09/30/14 18:38	110-82-7	
Dibromochloromethane	ND	ug/m3	2.8	1.61		09/30/14 18:38	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	2.5	1.61		09/30/14 18:38	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	2.0	1.61		09/30/14 18:38	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	2.0	1.61		09/30/14 18:38	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	2.0	1.61		09/30/14 18:38	106-46-7	
Dichlorodifluoromethane	3.3	ug/m3	1.6	1.61		09/30/14 18:38	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.3	1.61		09/30/14 18:38	75-34-3	
1,2-Dichloroethane	ND	ug/m3	0.66	1.61		09/30/14 18:38	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.3	1.61		09/30/14 18:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	1.61		09/30/14 18:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	1.61		09/30/14 18:38	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.5	1.61		09/30/14 18:38	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	1.5	1.61		09/30/14 18:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	1.5	1.61		09/30/14 18:38	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.3	1.61		09/30/14 18:38	76-14-2	
Ethanol	ND	ug/m3	1.5	1.61		09/30/14 18:38	64-17-5	
Ethyl acetate	ND	ug/m3	1.2	1.61		09/30/14 18:38	141-78-6	
Ethylbenzene	3.0	ug/m3	1.4	1.61		09/30/14 18:38	100-41-4	
4-Ethyltoluene	ND	ug/m3	1.6	1.61		09/30/14 18:38	622-96-8	
n-Heptane	ND	ug/m3	1.3	1.61		09/30/14 18:38	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	3.5	1.61		09/30/14 18:38	87-68-3	
n-Hexane	1.5	ug/m3	1.2	1.61		09/30/14 18:38	110-54-3	
2-Hexanone	ND	ug/m3	1.3	1.61		09/30/14 18:38	591-78-6	
Methylene Chloride	ND	ug/m3	5.7	1.61		09/30/14 18:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	9.2	ug/m3	3.4	1.61		09/30/14 18:38	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	1.2	1.61		09/30/14 18:38	1634-04-4	
Naphthalene	ND	ug/m3	4.3	1.61		09/30/14 18:38	91-20-3	
2-Propanol	ND	ug/m3	2.0	1.61		09/30/14 18:38	67-63-0	
Propylene	ND	ug/m3	0.56	1.61		09/30/14 18:38	115-07-1	
Styrene	ND	ug/m3	1.4	1.61		09/30/14 18:38	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.1	1.61		09/30/14 18:38	79-34-5	
Tetrachloroethene	141	ug/m3	1.1	1.61		09/30/14 18:38	127-18-4	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-2-092714		Lab ID: 10283276002	Collected: 09/28/14 13:56	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Tetrahydrofuran	ND	ug/m3	0.97	1.61		09/30/14 18:38	109-99-9	
Toluene	2.8	ug/m3	1.2	1.61		09/30/14 18:38	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.4	1.61		09/30/14 18:38	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.8	1.61		09/30/14 18:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.89	1.61		09/30/14 18:38	79-00-5	
Trichloroethene	894	ug/m3	84.6	77.5		10/01/14 15:13	79-01-6	
Trichlorofluoromethane	3.9	ug/m3	1.8	1.61		09/30/14 18:38	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.6	1.61		09/30/14 18:38	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	1.6	1.61		09/30/14 18:38	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	1.61		09/30/14 18:38	108-67-8	
Vinyl acetate	2.2	ug/m3	1.2	1.61		09/30/14 18:38	108-05-4	
Vinyl chloride	ND	ug/m3	0.42	1.61		09/30/14 18:38	75-01-4	
m&p-Xylene	5.1	ug/m3	2.8	1.61		09/30/14 18:38	179601-23-1	
o-Xylene	3.1	ug/m3	1.4	1.61		09/30/14 18:38	95-47-6	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-3-092714		Lab ID: 10283276001	Collected: 09/28/14 13:26	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Acetone	34.5 ug/m3		3.9	1.61		09/30/14 17:48	67-64-1	
Benzene	0.96 ug/m3		0.52	1.61		09/30/14 17:48	71-43-2	
Benzyl chloride	ND ug/m3		4.2	1.61		09/30/14 17:48	100-44-7	
Bromodichloromethane	ND ug/m3		2.2	1.61		09/30/14 17:48	75-27-4	
Bromoform	ND ug/m3		3.4	1.61		09/30/14 17:48	75-25-2	
Bromomethane	ND ug/m3		1.3	1.61		09/30/14 17:48	74-83-9	
1,3-Butadiene	ND ug/m3		0.72	1.61		09/30/14 17:48	106-99-0	
2-Butanone (MEK)	4.9 ug/m3		0.97	1.61		09/30/14 17:48	78-93-3	
Carbon disulfide	ND ug/m3		1.0	1.61		09/30/14 17:48	75-15-0	
Carbon tetrachloride	ND ug/m3		2.1	1.61		09/30/14 17:48	56-23-5	
Chlorobenzene	ND ug/m3		1.5	1.61		09/30/14 17:48	108-90-7	
Chloroethane	ND ug/m3		0.87	1.61		09/30/14 17:48	75-00-3	
Chloroform	ND ug/m3		0.80	1.61		09/30/14 17:48	67-66-3	
Chloromethane	ND ug/m3		0.68	1.61		09/30/14 17:48	74-87-3	
Cyclohexane	ND ug/m3		1.1	1.61		09/30/14 17:48	110-82-7	
Dibromochloromethane	ND ug/m3		2.8	1.61		09/30/14 17:48	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/m3		2.5	1.61		09/30/14 17:48	106-93-4	
1,2-Dichlorobenzene	ND ug/m3		2.0	1.61		09/30/14 17:48	95-50-1	
1,3-Dichlorobenzene	ND ug/m3		2.0	1.61		09/30/14 17:48	541-73-1	
1,4-Dichlorobenzene	ND ug/m3		2.0	1.61		09/30/14 17:48	106-46-7	
Dichlorodifluoromethane	2.7 ug/m3		1.6	1.61		09/30/14 17:48	75-71-8	
1,1-Dichloroethane	ND ug/m3		1.3	1.61		09/30/14 17:48	75-34-3	
1,2-Dichloroethane	ND ug/m3		0.66	1.61		09/30/14 17:48	107-06-2	
1,1-Dichloroethene	ND ug/m3		1.3	1.61		09/30/14 17:48	75-35-4	
cis-1,2-Dichloroethene	ND ug/m3		1.3	1.61		09/30/14 17:48	156-59-2	
trans-1,2-Dichloroethene	ND ug/m3		1.3	1.61		09/30/14 17:48	156-60-5	
1,2-Dichloropropane	ND ug/m3		1.5	1.61		09/30/14 17:48	78-87-5	
cis-1,3-Dichloropropene	ND ug/m3		1.5	1.61		09/30/14 17:48	10061-01-5	
trans-1,3-Dichloropropene	ND ug/m3		1.5	1.61		09/30/14 17:48	10061-02-6	
Dichlorotetrafluoroethane	ND ug/m3		2.3	1.61		09/30/14 17:48	76-14-2	
Ethanol	3.6 ug/m3		1.5	1.61		09/30/14 17:48	64-17-5	
Ethyl acetate	ND ug/m3		1.2	1.61		09/30/14 17:48	141-78-6	
Ethylbenzene	ND ug/m3		1.4	1.61		09/30/14 17:48	100-41-4	
4-Ethyltoluene	ND ug/m3		1.6	1.61		09/30/14 17:48	622-96-8	
n-Heptane	ND ug/m3		1.3	1.61		09/30/14 17:48	142-82-5	
Hexachloro-1,3-butadiene	ND ug/m3		3.5	1.61		09/30/14 17:48	87-68-3	
n-Hexane	ND ug/m3		1.2	1.61		09/30/14 17:48	110-54-3	
2-Hexanone	ND ug/m3		1.3	1.61		09/30/14 17:48	591-78-6	
Methylene Chloride	ND ug/m3		5.7	1.61		09/30/14 17:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/m3		3.4	1.61		09/30/14 17:48	108-10-1	
Methyl-tert-butyl ether	ND ug/m3		1.2	1.61		09/30/14 17:48	1634-04-4	
Naphthalene	ND ug/m3		4.3	1.61		09/30/14 17:48	91-20-3	
2-Propanol	ND ug/m3		2.0	1.61		09/30/14 17:48	67-63-0	
Propylene	ND ug/m3		0.56	1.61		09/30/14 17:48	115-07-1	
Styrene	ND ug/m3		1.4	1.61		09/30/14 17:48	100-42-5	
1,1,2,2-Tetrachloroethane	ND ug/m3		1.1	1.61		09/30/14 17:48	79-34-5	
Tetrachloroethene	61.7 ug/m3		1.1	1.61		09/30/14 17:48	127-18-4	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-3-092714		Lab ID: 10283276001	Collected: 09/28/14 13:26	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Tetrahydrofuran	ND	ug/m3	0.97	1.61		09/30/14 17:48	109-99-9	
Toluene	2.2	ug/m3	1.2	1.61		09/30/14 17:48	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	2.4	1.61		09/30/14 17:48	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.8	1.61		09/30/14 17:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.89	1.61		09/30/14 17:48	79-00-5	
Trichloroethene	199	ug/m3	0.89	1.61		09/30/14 17:48	79-01-6	
Trichlorofluoromethane	2.0	ug/m3	1.8	1.61		09/30/14 17:48	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	2.6	1.61		09/30/14 17:48	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	1.6	1.61		09/30/14 17:48	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.6	1.61		09/30/14 17:48	108-67-8	
Vinyl acetate	ND	ug/m3	1.2	1.61		09/30/14 17:48	108-05-4	
Vinyl chloride	ND	ug/m3	0.42	1.61		09/30/14 17:48	75-01-4	
m&p-Xylene	3.3	ug/m3	2.8	1.61		09/30/14 17:48	179601-23-1	
o-Xylene	1.6	ug/m3	1.4	1.61		09/30/14 17:48	95-47-6	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-4-092714		Lab ID: 10283276007		Collected: 09/28/14 15:44		Received: 09/30/14 10:00		Matrix: Air	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
TO15 MSV AIR		Analytical Method: TO-15							
Acetone	ND	ug/m3	1300	537.6		10/01/14 14:29	67-64-1		
Benzene	ND	ug/m3	349	537.6		10/01/14 14:29	71-43-2		
Benzyl chloride	ND	ug/m3	564	537.6		10/01/14 14:29	100-44-7		
Bromodichloromethane	ND	ug/m3	734	537.6		10/01/14 14:29	75-27-4		
Bromoform	ND	ug/m3	1130	537.6		10/01/14 14:29	75-25-2		
Bromomethane	ND	ug/m3	425	537.6		10/01/14 14:29	74-83-9		
1,3-Butadiene	ND	ug/m3	242	537.6		10/01/14 14:29	106-99-0		
2-Butanone (MEK)	ND	ug/m3	323	537.6		10/01/14 14:29	78-93-3		
Carbon disulfide	ND	ug/m3	339	537.6		10/01/14 14:29	75-15-0		
Carbon tetrachloride	ND	ug/m3	344	537.6		10/01/14 14:29	56-23-5		
Chlorobenzene	ND	ug/m3	1260	537.6		10/01/14 14:29	108-90-7		
Chloroethane	ND	ug/m3	290	537.6		10/01/14 14:29	75-00-3		
Chloroform	ND	ug/m3	534	537.6		10/01/14 14:29	67-66-3		
Chloromethane	ND	ug/m3	226	537.6		10/01/14 14:29	74-87-3		
Cyclohexane	ND	ug/m3	940	537.6		10/01/14 14:29	110-82-7		
Dibromochloromethane	ND	ug/m3	930	537.6		10/01/14 14:29	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/m3	839	537.6		10/01/14 14:29	106-93-4		
1,2-Dichlorobenzene	ND	ug/m3	656	537.6		10/01/14 14:29	95-50-1		
1,3-Dichlorobenzene	ND	ug/m3	656	537.6		10/01/14 14:29	541-73-1		
1,4-Dichlorobenzene	ND	ug/m3	656	537.6		10/01/14 14:29	106-46-7		
Dichlorodifluoromethane	ND	ug/m3	543	537.6		10/01/14 14:29	75-71-8		
1,1-Dichloroethane	ND	ug/m3	441	537.6		10/01/14 14:29	75-34-3		
1,2-Dichloroethane	ND	ug/m3	220	537.6		10/01/14 14:29	107-06-2		
1,1-Dichloroethene	ND	ug/m3	435	537.6		10/01/14 14:29	75-35-4		
cis-1,2-Dichloroethene	4040	ug/m3	435	537.6		10/01/14 14:29	156-59-2		
trans-1,2-Dichloroethene	ND	ug/m3	435	537.6		10/01/14 14:29	156-60-5		
1,2-Dichloropropane	ND	ug/m3	505	537.6		10/01/14 14:29	78-87-5		
cis-1,3-Dichloropropene	ND	ug/m3	495	537.6		10/01/14 14:29	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/m3	495	537.6		10/01/14 14:29	10061-02-6		
Dichlorotetrafluoroethane	ND	ug/m3	763	537.6		10/01/14 14:29	76-14-2		
Ethanol	ND	ug/m3	516	537.6		10/01/14 14:29	64-17-5		
Ethyl acetate	ND	ug/m3	392	537.6		10/01/14 14:29	141-78-6		
Ethylbenzene	ND	ug/m3	473	537.6		10/01/14 14:29	100-41-4		
4-Ethyltoluene	ND	ug/m3	538	537.6		10/01/14 14:29	622-96-8		
n-Heptane	ND	ug/m3	1190	537.6		10/01/14 14:29	142-82-5		
Hexachloro-1,3-butadiene	ND	ug/m3	1180	537.6		10/01/14 14:29	87-68-3		
n-Hexane	ND	ug/m3	963	537.6		10/01/14 14:29	110-54-3		
2-Hexanone	ND	ug/m3	446	537.6		10/01/14 14:29	591-78-6		
Methylene Chloride	ND	ug/m3	1900	537.6		10/01/14 14:29	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	446	537.6		10/01/14 14:29	108-10-1		
Methyl-tert-butyl ether	ND	ug/m3	392	537.6		10/01/14 14:29	1634-04-4		
Naphthalene	ND	ug/m3	1430	537.6		10/01/14 14:29	91-20-3		
2-Propanol	ND	ug/m3	672	537.6		10/01/14 14:29	67-63-0		
Propylene	ND	ug/m3	188	537.6		10/01/14 14:29	115-07-1		
Styrene	ND	ug/m3	468	537.6		10/01/14 14:29	100-42-5		
1,1,2,2-Tetrachloroethane	ND	ug/m3	375	537.6		10/01/14 14:29	79-34-5		

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-4-092714		Lab ID: 10283276007	Collected: 09/28/14 15:44	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Tetrachloroethene	3550000	ug/m3	23700	17203.2		10/01/14 16:00	127-18-4	
Tetrahydrofuran	ND	ug/m3		323	537.6	10/01/14 14:29	109-99-9	
Toluene	ND	ug/m3		414	537.6	10/01/14 14:29	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3		812	537.6	10/01/14 14:29	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3		597	537.6	10/01/14 14:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3		296	537.6	10/01/14 14:29	79-00-5	
Trichloroethene	25500	ug/m3		587	537.6	10/01/14 14:29	79-01-6	
Trichlorofluoromethane	ND	ug/m3		613	537.6	10/01/14 14:29	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3		860	537.6	10/01/14 14:29	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3		537	537.6	10/01/14 14:29	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3		537	537.6	10/01/14 14:29	108-67-8	
Vinyl acetate	ND	ug/m3		385	537.6	10/01/14 14:29	108-05-4	
Vinyl chloride	ND	ug/m3		140	537.6	10/01/14 14:29	75-01-4	
m&p-Xylene	ND	ug/m3		946	537.6	10/01/14 14:29	179601-23-1	
o-Xylene	ND	ug/m3		473	537.6	10/01/14 14:29	95-47-6	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-5-092714		Lab ID: 10283276004	Collected: 09/28/14 14:57	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Acetone	ND	ug/m3	2390	992		10/01/14 14:51	67-64-1	
Benzene	ND	ug/m3	644	992		10/01/14 14:51	71-43-2	
Benzyl chloride	ND	ug/m3	1040	992		10/01/14 14:51	100-44-7	
Bromodichloromethane	ND	ug/m3	1350	992		10/01/14 14:51	75-27-4	
Bromoform	ND	ug/m3	2080	992		10/01/14 14:51	75-25-2	
Bromomethane	ND	ug/m3	784	992		10/01/14 14:51	74-83-9	
1,3-Butadiene	ND	ug/m3	446	992		10/01/14 14:51	106-99-0	
2-Butanone (MEK)	ND	ug/m3	595	992		10/01/14 14:51	78-93-3	
Carbon disulfide	ND	ug/m3	625	992		10/01/14 14:51	75-15-0	
Carbon tetrachloride	ND	ug/m3	635	992		10/01/14 14:51	56-23-5	
Chlorobenzene	ND	ug/m3	2320	992		10/01/14 14:51	108-90-7	
Chloroethane	ND	ug/m3	536	992		10/01/14 14:51	75-00-3	
Chloroform	ND	ug/m3	985	992		10/01/14 14:51	67-66-3	
Chloromethane	ND	ug/m3	417	992		10/01/14 14:51	74-87-3	
Cyclohexane	ND	ug/m3	1740	992		10/01/14 14:51	110-82-7	
Dibromochloromethane	ND	ug/m3	1720	992		10/01/14 14:51	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1550	992		10/01/14 14:51	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1210	992		10/01/14 14:51	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1240	992		10/01/14 14:51	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1240	992		10/01/14 14:51	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	1000	992		10/01/14 14:51	75-71-8	
1,1-Dichloroethane	ND	ug/m3	813	992		10/01/14 14:51	75-34-3	
1,2-Dichloroethane	ND	ug/m3	407	992		10/01/14 14:51	107-06-2	
1,1-Dichloroethene	ND	ug/m3	804	992		10/01/14 14:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	804	992		10/01/14 14:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	804	992		10/01/14 14:51	156-60-5	
1,2-Dichloropropane	ND	ug/m3	932	992		10/01/14 14:51	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	913	992		10/01/14 14:51	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	913	992		10/01/14 14:51	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	1410	992		10/01/14 14:51	76-14-2	
Ethanol	ND	ug/m3	952	992		10/01/14 14:51	64-17-5	
Ethyl acetate	ND	ug/m3	724	992		10/01/14 14:51	141-78-6	
Ethylbenzene	ND	ug/m3	879	992		10/01/14 14:51	100-41-4	
4-Ethyltoluene	ND	ug/m3	992	992		10/01/14 14:51	622-96-8	
n-Heptane	ND	ug/m3	2190	992		10/01/14 14:51	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	2180	992		10/01/14 14:51	87-68-3	
n-Hexane	ND	ug/m3	1780	992		10/01/14 14:51	110-54-3	
2-Hexanone	ND	ug/m3	823	992		10/01/14 14:51	591-78-6	
Methylene Chloride	ND	ug/m3	3500	992		10/01/14 14:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	823	992		10/01/14 14:51	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	724	992		10/01/14 14:51	1634-04-4	
Naphthalene	ND	ug/m3	2640	992		10/01/14 14:51	91-20-3	
2-Propanol	ND	ug/m3	1240	992		10/01/14 14:51	67-63-0	
Propylene	ND	ug/m3	347	992		10/01/14 14:51	115-07-1	
Styrene	ND	ug/m3	863	992		10/01/14 14:51	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	692	992		10/01/14 14:51	79-34-5	
Tetrachloroethene	65000	ug/m3	1370	992		10/01/14 15:38	127-18-4	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-5-092714		Lab ID: 10283276004	Collected: 09/28/14 14:57	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Tetrahydrofuran	ND	ug/m3	595	992		10/01/14 14:51	109-99-9	
Toluene	ND	ug/m3	764	992		10/01/14 14:51	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	1500	992		10/01/14 14:51	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1100	992		10/01/14 14:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	546	992		10/01/14 14:51	79-00-5	
Trichloroethene	44400	ug/m3	1080	992		10/01/14 14:51	79-01-6	
Trichlorofluoromethane	ND	ug/m3	1130	992		10/01/14 14:51	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	1590	992		10/01/14 14:51	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	991	992		10/01/14 14:51	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	991	992		10/01/14 14:51	108-67-8	
Vinyl acetate	ND	ug/m3	710	992		10/01/14 14:51	108-05-4	
Vinyl chloride	ND	ug/m3	258	992		10/01/14 14:51	75-01-4	
m&p-Xylene	ND	ug/m3	1750	992		10/01/14 14:51	179601-23-1	
o-Xylene	ND	ug/m3	873	992		10/01/14 14:51	95-47-6	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-6-092714		Lab ID: 10283276005	Collected: 09/28/14 15:20	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Acetone	ND	ug/m3	203	84		10/01/14 13:45	67-64-1	
Benzene	ND	ug/m3	54.5	84		10/01/14 13:45	71-43-2	
Benzyl chloride	ND	ug/m3	88.2	84		10/01/14 13:45	100-44-7	
Bromodichloromethane	ND	ug/m3	114	84		10/01/14 13:45	75-27-4	
Bromoform	ND	ug/m3	176	84		10/01/14 13:45	75-25-2	
Bromomethane	ND	ug/m3	66.4	84		10/01/14 13:45	74-83-9	
1,3-Butadiene	ND	ug/m3	37.8	84		10/01/14 13:45	106-99-0	
2-Butanone (MEK)	ND	ug/m3	50.4	84		10/01/14 13:45	78-93-3	
Carbon disulfide	ND	ug/m3	52.9	84		10/01/14 13:45	75-15-0	
Carbon tetrachloride	ND	ug/m3	53.8	84		10/01/14 13:45	56-23-5	
Chlorobenzene	ND	ug/m3	197	84		10/01/14 13:45	108-90-7	
Chloroethane	ND	ug/m3	45.4	84		10/01/14 13:45	75-00-3	
Chloroform	ND	ug/m3	83.4	84		10/01/14 13:45	67-66-3	
Chloromethane	ND	ug/m3	35.3	84		10/01/14 13:45	74-87-3	
Cyclohexane	ND	ug/m3	147	84		10/01/14 13:45	110-82-7	
Dibromochloromethane	ND	ug/m3	145	84		10/01/14 13:45	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	131	84		10/01/14 13:45	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	102	84		10/01/14 13:45	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	102	84		10/01/14 13:45	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	102	84		10/01/14 13:45	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	84.8	84		10/01/14 13:45	75-71-8	
1,1-Dichloroethane	ND	ug/m3	88.9	84		10/01/14 13:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	34.4	84		10/01/14 13:45	107-06-2	
1,1-Dichloroethene	ND	ug/m3	68.0	84		10/01/14 13:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	68.0	84		10/01/14 13:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	68.0	84		10/01/14 13:45	156-60-5	
1,2-Dichloropropane	ND	ug/m3	79.0	84		10/01/14 13:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	77.3	84		10/01/14 13:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	77.3	84		10/01/14 13:45	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	119	84		10/01/14 13:45	76-14-2	
Ethanol	ND	ug/m3	80.6	84		10/01/14 13:45	64-17-5	
Ethyl acetate	ND	ug/m3	61.3	84		10/01/14 13:45	141-78-6	
Ethylbenzene	ND	ug/m3	73.9	84		10/01/14 13:45	100-41-4	
4-Ethyltoluene	ND	ug/m3	84.0	84		10/01/14 13:45	622-96-8	
n-Heptane	ND	ug/m3	185	84		10/01/14 13:45	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	185	84		10/01/14 13:45	87-68-3	
n-Hexane	ND	ug/m3	150	84		10/01/14 13:45	110-54-3	
2-Hexanone	ND	ug/m3	69.7	84		10/01/14 13:45	591-78-6	
Methylene Chloride	ND	ug/m3	297	84		10/01/14 13:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	69.7	84		10/01/14 13:45	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	61.3	84		10/01/14 13:45	1634-04-4	
Naphthalene	ND	ug/m3	223	84		10/01/14 13:45	91-20-3	
2-Propanol	ND	ug/m3	105	84		10/01/14 13:45	67-63-0	
Propylene	ND	ug/m3	29.4	84		10/01/14 13:45	115-07-1	
Styrene	ND	ug/m3	73.1	84		10/01/14 13:45	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	58.6	84		10/01/14 13:45	79-34-5	
Tetrachloroethene	8380	ug/m3	116	84		10/01/14 13:45	127-18-4	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-6-092714		Lab ID: 10283276005	Collected: 09/28/14 15:20	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Tetrahydrofuran	ND	ug/m3	50.4	84		10/01/14 13:45	109-99-9	
Toluene	ND	ug/m3	64.7	84		10/01/14 13:45	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	127	84		10/01/14 13:45	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	93.2	84		10/01/14 13:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	46.2	84		10/01/14 13:45	79-00-5	
Trichloroethene	2170	ug/m3	91.7	84		10/01/14 13:45	79-01-6	
Trichlorofluoromethane	ND	ug/m3	95.8	84		10/01/14 13:45	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	134	84		10/01/14 13:45	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	83.9	84		10/01/14 13:45	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	83.9	84		10/01/14 13:45	108-67-8	
Vinyl acetate	ND	ug/m3	60.1	84		10/01/14 13:45	108-05-4	
Vinyl chloride	ND	ug/m3	21.8	84		10/01/14 13:45	75-01-4	
m&p-Xylene	ND	ug/m3	148	84		10/01/14 13:45	179601-23-1	
o-Xylene	ND	ug/m3	73.9	84		10/01/14 13:45	95-47-6	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-FD-092714		Lab ID: 10283276006	Collected: 09/28/14 15:20	Received: 09/30/14 10:00	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15						
Acetone	ND	ug/m3	180	74.5		10/01/14 13:23	67-64-1	
Benzene	ND	ug/m3	48.4	74.5		10/01/14 13:23	71-43-2	
Benzyl chloride	ND	ug/m3	78.2	74.5		10/01/14 13:23	100-44-7	
Bromodichloromethane	ND	ug/m3	101	74.5		10/01/14 13:23	75-27-4	
Bromoform	ND	ug/m3	156	74.5		10/01/14 13:23	75-25-2	
Bromomethane	ND	ug/m3	58.9	74.5		10/01/14 13:23	74-83-9	
1,3-Butadiene	ND	ug/m3	33.5	74.5		10/01/14 13:23	106-99-0	
2-Butanone (MEK)	ND	ug/m3	44.7	74.5		10/01/14 13:23	78-93-3	
Carbon disulfide	ND	ug/m3	46.9	74.5		10/01/14 13:23	75-15-0	
Carbon tetrachloride	ND	ug/m3	47.7	74.5		10/01/14 13:23	56-23-5	
Chlorobenzene	ND	ug/m3	174	74.5		10/01/14 13:23	108-90-7	
Chloroethane	ND	ug/m3	40.2	74.5		10/01/14 13:23	75-00-3	
Chloroform	ND	ug/m3	74.0	74.5		10/01/14 13:23	67-66-3	
Chloromethane	ND	ug/m3	31.3	74.5		10/01/14 13:23	74-87-3	
Cyclohexane	ND	ug/m3	130	74.5		10/01/14 13:23	110-82-7	
Dibromochloromethane	ND	ug/m3	129	74.5		10/01/14 13:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	116	74.5		10/01/14 13:23	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	90.9	74.5		10/01/14 13:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	90.9	74.5		10/01/14 13:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	90.9	74.5		10/01/14 13:23	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	75.2	74.5		10/01/14 13:23	75-71-8	
1,1-Dichloroethane	ND	ug/m3	61.1	74.5		10/01/14 13:23	75-34-3	
1,2-Dichloroethane	ND	ug/m3	30.5	74.5		10/01/14 13:23	107-06-2	
1,1-Dichloroethene	ND	ug/m3	60.3	74.5		10/01/14 13:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	60.3	74.5		10/01/14 13:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	60.8	74.5		10/01/14 13:23	156-60-5	
1,2-Dichloropropane	ND	ug/m3	70.0	74.5		10/01/14 13:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	68.5	74.5		10/01/14 13:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	68.5	74.5		10/01/14 13:23	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	106	74.5		10/01/14 13:23	76-14-2	
Ethanol	ND	ug/m3	71.5	74.5		10/01/14 13:23	64-17-5	
Ethyl acetate	ND	ug/m3	54.4	74.5		10/01/14 13:23	141-78-6	
Ethylbenzene	ND	ug/m3	65.6	74.5		10/01/14 13:23	100-41-4	
4-Ethyltoluene	ND	ug/m3	74.5	74.5		10/01/14 13:23	622-96-8	
n-Heptane	ND	ug/m3	164	74.5		10/01/14 13:23	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	164	74.5		10/01/14 13:23	87-68-3	
n-Hexane	ND	ug/m3	133	74.5		10/01/14 13:23	110-54-3	
2-Hexanone	ND	ug/m3	61.8	74.5		10/01/14 13:23	591-78-6	
Methylene Chloride	315	ug/m3	263	74.5		10/01/14 13:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	61.8	74.5		10/01/14 13:23	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	54.4	74.5		10/01/14 13:23	1634-04-4	
Naphthalene	ND	ug/m3	198	74.5		10/01/14 13:23	91-20-3	
2-Propanol	ND	ug/m3	93.1	74.5		10/01/14 13:23	67-63-0	
Propylene	ND	ug/m3	26.1	74.5		10/01/14 13:23	115-07-1	
Styrene	ND	ug/m3	64.8	74.5		10/01/14 13:23	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	52.0	74.5		10/01/14 13:23	79-34-5	
Tetrachloroethene	6760	ug/m3	103	74.5		10/01/14 13:23	127-18-4	

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ANALYTICAL RESULTS

Project: 30281-134 Valley Pike VOC Site
Pace Project No.: 10283276

Sample: VP-EPA-FD-092714	Lab ID: 10283276006	Collected: 09/28/14 15:20	Received: 09/30/14 10:00	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15								
Tetrahydrofuran	ND	ug/m3	44.7	74.5		10/01/14 13:23	109-99-9	
Toluene	ND	ug/m3	57.4	74.5		10/01/14 13:23	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	112	74.5		10/01/14 13:23	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	82.7	74.5		10/01/14 13:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	41.0	74.5		10/01/14 13:23	79-00-5	
Trichloroethene	2070	ug/m3	81.4	74.5		10/01/14 13:23	79-01-6	
Trichlorofluoromethane	ND	ug/m3	84.9	74.5		10/01/14 13:23	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	119	74.5		10/01/14 13:23	76-13-1	
1,2,4-Trimethylbenzene	ND	ug/m3	74.4	74.5		10/01/14 13:23	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	74.4	74.5		10/01/14 13:23	108-67-8	
Vinyl acetate	ND	ug/m3	53.3	74.5		10/01/14 13:23	108-05-4	
Vinyl chloride	ND	ug/m3	19.4	74.5		10/01/14 13:23	75-01-4	
m&p-Xylene	ND	ug/m3	134	74.5		10/01/14 13:23	179601-23-1	
o-Xylene	ND	ug/m3	65.0	74.5		10/01/14 13:23	95-47-6	

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Appendix D

Soil and Groundwater Analytical Data Validation Reports

Note: Project file contains full laboratory data reports.



DATA VALIDATION CHECKLIST – STAGE 4

(Page 1 of 6)

Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/19/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	50105019	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – SW-846 Method 8260B		
Samples	SB-MW-EPA-8-0304; SB-MW-EPA-8-0608; SB-MW-EPA-8-1315; SB-MW-EPA-8-2022; SB-MW-EPA-8-2426; and GW-SB-MW-EPA-8-100714		
Field Duplicates	SB-MW-EPA-8-0608 and SB-FD-100714-01		
Field Blanks	RB-100714-01; TB-100714-01; and TB-100714-02		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
	Cooler received at 1.2 degrees Celsius – no action (samples received intact and not frozen)

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 2 of 6)

Initial Calibration:

Within Criteria	Exceedance/Notes
	10/13/14 (16:52-20:34): RRF exceeded criteria for bromodichloromethane; 1,1,2-trichloroethane; and 1,2-dibromoethane – flag “R” for SB-MW-EPA-8-0304; SB-MW-EPA-8-0608; SB-FD-100714-01; SB-MW-EPA-8-1315; and TB-100714-01 10/13/14 (17:07-20:50): RRF exceeded criteria for bromodichloromethane and 1,1,2-trichloroethane – flag “R” for SB-MW-EPA-8-2022 and SB-MW-EPA-8-2426

Continuing Calibration:

Within Criteria	Exceedance/Notes
	10/14/14 (11:29): %D exceeded criteria for carbon disulfide and iodomethane – flag “UJ” for SB-MW-EPA-8-0304; SB-MW-EPA-8-0608; SB-FD-100714-01; SB-MW-EPA-8-1315; and TB-100714-01 10/14/14 (11:45): %D exceeded criteria for bromomethane and carbon disulfide – flag “UJ” for SB-MW-EPA-8-2022 and SB-MW-EPA-8-2426 10/15/14 (12:14): %D exceeded criteria for carbon disulfide and o-xylene – no action (associated results reported from different runs)

Calibration Verification:

Within Criteria	Exceedance/Notes
	10/13/14 (21:38): %D exceeded criteria for carbon disulfide and ethyl methacrylate – flag “UJ” for SB-MW-EPA-8-0304; SB-MW-EPA-8-0608; SB-FD-100714-01; SB-MW-EPA-8-1315; and TB-100714-01 10/13/14 (21:54): %D exceeded criteria for bromomethane; carbon disulfide; and ethyl methacrylate – flag “UJ” for SB-MW-EPA-8-2022 and SB-MW-EPA-8-2426



DATA VALIDATION CHECKLIST – STAGE 4

(Page 3 of 6)

Method blanks:

Within Criteria	Exceedance/Notes
X	

Field blanks:

Within Criteria	Exceedance/Notes
X	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
X	

MS/MSD:

Within Criteria	Exceedance/Notes
	MS/MSDs performed for data package were not from site – not evaluated

Field duplicates:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 4 of 6)

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
	1172485: high %R for iodomethane – no action (associated results non-detect) 1172509: high %Rs for carbon disulfide; methyl tert-butyl ether; and n-hexane – no action (associated results non-detect)

Sample dilutions:

Within Criteria	Exceedance/Notes
	50x: VOCs except tetrachloroethene for SB-MW-EPA-8-2022 1000x: Tetrachloroethene for SB-MW-EPA-8-2022 50x: VOCs except tetrachloroethene and trichloroethene for SB-MW-EPA-8-2426 5000x: Trichloroethene for SB-MW-EPA-8-2426 20000x: Tetrachloroethene for SB-MW-EPA-8-2426 10x: VOCs except tetrachloroethene for GW-SB-MW-EPA-8-100714 500x: Tetrachloroethene for GW-SB-MW-EPA-8-100714

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None were required

Internal Standards:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 5 of 6)

Target analyte identification:

Within Criteria	Exceedance/Notes
X	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action

System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134

Pace Project No.: 50105019

Sample: SB-MW-EPA-8-0304 Lab ID: 50105019002 Collected: 10/07/14 10:35 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.088	1		10/14/14 16:16	67-64-1	
Acrolein	ND	mg/kg	0.088	1		10/14/14 16:16	107-02-8	
Acrylonitrile	ND	mg/kg	0.088	1		10/14/14 16:16	107-13-1	
Benzene	ND	mg/kg	0.0044	1		10/14/14 16:16	71-43-2	
Bromobenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	108-86-1	
Bromochloromethane	ND	mg/kg	0.0044	1		10/14/14 16:16	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0044	1		10/14/14 16:16	75-27-4	
Bromoform	ND	mg/kg	0.0044	1		10/14/14 16:16	75-25-2	
Bromomethane	ND	mg/kg	0.0044	1		10/14/14 16:16	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.022	1		10/14/14 16:16	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	98-06-6	
Carbon disulfide	ND	mg/kg	0.0088	1		10/14/14 16:16	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0044	1		10/14/14 16:16	56-23-5	
Chlorobenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	108-90-7	
Chloroethane	ND	mg/kg	0.0044	1		10/14/14 16:16	75-00-3	
Chloroform	ND	mg/kg	0.0044	1		10/14/14 16:16	67-66-3	
Chloromethane	ND	mg/kg	0.0044	1		10/14/14 16:16	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0044	1		10/14/14 16:16	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0044	1		10/14/14 16:16	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0044	1		10/14/14 16:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0044	1		10/14/14 16:16	106-93-4	
Dibromomethane	ND	mg/kg	0.0044	1		10/14/14 16:16	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.088	1		10/14/14 16:16	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0044	1		10/14/14 16:16	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0044	1		10/14/14 16:16	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0044	1		10/14/14 16:16	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0044	1		10/14/14 16:16	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0044	1		10/14/14 16:16	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0044	1		10/14/14 16:16	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0044	1		10/14/14 16:16	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0044	1		10/14/14 16:16	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0044	1		10/14/14 16:16	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0044	1		10/14/14 16:16	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0044	1		10/14/14 16:16	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0044	1		10/14/14 16:16	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.088	1		10/14/14 16:16	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0044	1		10/14/14 16:16	87-68-3	
n-Hexane	ND	mg/kg	0.0044	1		10/14/14 16:16	110-54-3	
2-Hexanone	ND	mg/kg	0.088	1		10/14/14 16:16	591-78-6	
Iodomethane	ND	mg/kg	0.088	1		10/14/14 16:16	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: SB-MW-EPA-8-0304 Lab ID: 50105019002 Collected: 10/07/14 10:35 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.0044	1		10/14/14 16:16	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0044	1		10/14/14 16:16	99-87-6	
Methylene Chloride	ND	mg/kg	0.018	1		10/14/14 16:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.022	1		10/14/14 16:16	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0044	1		10/14/14 16:16	1634-04-4	
Naphthalene	ND	mg/kg	0.0044	1		10/14/14 16:16	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	103-65-1	
Styrene	ND	mg/kg	0.0044	1		10/14/14 16:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0044	1		10/14/14 16:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0044	1		10/14/14 16:16	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0047	1		10/15/14 14:06	127-18-4	
Toluene	ND	mg/kg	0.0044	1		10/14/14 16:16	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0044	1		10/14/14 16:16	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0044	1		10/14/14 16:16	79-00-5	
Trichloroethene	ND	mg/kg	0.0044	1		10/14/14 16:16	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0044	1		10/14/14 16:16	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0044	1		10/14/14 16:16	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0044	1		10/14/14 16:16	108-67-8	
Vinyl acetate	ND	mg/kg	0.088	1		10/14/14 16:16	108-05-4	
Vinyl chloride	ND	mg/kg	0.0044	1		10/14/14 16:16	75-01-4	
Xylene (Total)	ND	mg/kg	0.0088	1		10/14/14 16:16	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96 %		85-118	1		10/14/14 16:16	1868-53-7	
Toluene-d8 (S)	98 %		71-128	1		10/14/14 16:16	2037-26-5	
4-Bromofluorobenzene (S)	94 %		56-144	1		10/14/14 16:16	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	12.1 %	0.10	1	10/10/14 11:49
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134

Pace Project No.: 50105019

Sample: SB-MW-EPA-8-0608 Lab ID: 50105019003 Collected: 10/07/14 10:48 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.081	1		10/14/14 16:47	67-64-1	
Acrolein	ND	mg/kg	0.081	1		10/14/14 16:47	107-02-8	
Acrylonitrile	ND	mg/kg	0.081	1		10/14/14 16:47	107-13-1	
Benzene	ND	mg/kg	0.0041	1		10/14/14 16:47	71-43-2	
Bromobenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	108-86-1	
Bromochloromethane	ND	mg/kg	0.0041	1		10/14/14 16:47	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0041	1		10/14/14 16:47	75-27-4	
Bromoform	ND	mg/kg	0.0041	1		10/14/14 16:47	75-25-2	
Bromomethane	ND	mg/kg	0.0041	1		10/14/14 16:47	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.020	1		10/14/14 16:47	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	98-06-6	
Carbon disulfide	ND	mg/kg	0.0081	1		10/14/14 16:47	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0041	1		10/14/14 16:47	56-23-5	
Chlorobenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	108-90-7	
Chloroethane	ND	mg/kg	0.0041	1		10/14/14 16:47	75-00-3	
Chloroform	ND	mg/kg	0.0041	1		10/14/14 16:47	67-66-3	
Chloromethane	ND	mg/kg	0.0041	1		10/14/14 16:47	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0041	1		10/14/14 16:47	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0041	1		10/14/14 16:47	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0041	1		10/14/14 16:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0041	1		10/14/14 16:47	106-93-4	
Dibromomethane	ND	mg/kg	0.0041	1		10/14/14 16:47	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.081	1		10/14/14 16:47	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0041	1		10/14/14 16:47	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0041	1		10/14/14 16:47	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0041	1		10/14/14 16:47	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0041	1		10/14/14 16:47	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0041	1		10/14/14 16:47	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0041	1		10/14/14 16:47	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0041	1		10/14/14 16:47	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0041	1		10/14/14 16:47	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0041	1		10/14/14 16:47	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0041	1		10/14/14 16:47	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0041	1		10/14/14 16:47	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0041	1		10/14/14 16:47	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0041	1		10/14/14 16:47	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.081	1		10/14/14 16:47	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0041	1		10/14/14 16:47	87-68-3	
n-Hexane	ND	mg/kg	0.0041	1		10/14/14 16:47	110-54-3	
2-Hexanone	ND	mg/kg	0.081	1		10/14/14 16:47	591-78-6	
Iodomethane	ND	mg/kg	0.081	1		10/14/14 16:47	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: SB-MW-EPA-8-0608 Lab ID: 50105019003 Collected: 10/07/14 10:48 Received: 10/08/14 10:39 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND mg/kg	U	0.0041	1		10/14/14 16:47	98-82-8	
p-Isopropyltoluene	ND mg/kg		0.0041	1		10/14/14 16:47	99-87-6	
Methylene Chloride	ND mg/kg		0.016	1		10/14/14 16:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/kg		0.020	1		10/14/14 16:47	108-10-1	
Methyl-tert-butyl ether	ND mg/kg		0.0041	1		10/14/14 16:47	1634-04-4	
Naphthalene	ND mg/kg		0.0041	1		10/14/14 16:47	91-20-3	
n-Propylbenzene	ND mg/kg		0.0041	1		10/14/14 16:47	103-65-1	
Styrene	ND mg/kg		0.0041	1		10/14/14 16:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/kg		0.0041	1		10/14/14 16:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/kg		0.0041	1		10/14/14 16:47	79-34-5	
Tetrachloroethene	ND mg/kg		0.0041	1		10/14/14 16:47	127-18-4	
Toluene	ND mg/kg		0.0041	1		10/14/14 16:47	108-88-3	
1,2,3-Trichlorobenzene	ND mg/kg		0.0041	1		10/14/14 16:47	87-61-6	
1,2,4-Trichlorobenzene	ND mg/kg		0.0041	1		10/14/14 16:47	120-82-1	
1,1,1-Trichloroethane	ND mg/kg		0.0041	1		10/14/14 16:47	71-55-6	
1,1,2-Trichloroethane	ND mg/kg		0.0041	1		10/14/14 16:47	79-00-5	
Trichloroethene	ND mg/kg		0.0041	1		10/14/14 16:47	79-01-6	
Trichlorofluoromethane	ND mg/kg		0.0041	1		10/14/14 16:47	75-69-4	
1,2,3-Trichloropropane	ND mg/kg		0.0041	1		10/14/14 16:47	96-18-4	
1,2,4-Trimethylbenzene	ND mg/kg		0.0041	1		10/14/14 16:47	95-63-6	
1,3,5-Trimethylbenzene	ND mg/kg		0.0041	1		10/14/14 16:47	108-67-8	
Vinyl acetate	ND mg/kg		0.081	1		10/14/14 16:47	108-05-4	
Vinyl chloride	ND mg/kg		0.0041	1		10/14/14 16:47	75-01-4	
Xylene (Total)	ND mg/kg		0.0081	1		10/14/14 16:47	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95 %		85-118	1		10/14/14 16:47	1868-53-7	
Toluene-d8 (S)	95 %		71-128	1		10/14/14 16:47	2037-26-5	
4-Bromofluorobenzene (S)	96 %		56-144	1		10/14/14 16:47	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture 3.3 % 0.10 1 10/10/14 11:49

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: SB-FD-100714-01 Lab ID: 50105019007 Collected: 10/07/14 00:00 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Acetone	ND	mg/kg	0.10	1		10/14/14 17:51	67-64-1	
Acrolein	ND	mg/kg	0.10	1		10/14/14 17:51	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		10/14/14 17:51	107-13-1	
Benzene	ND	mg/kg	0.0051	1		10/14/14 17:51	71-43-2	
Bromobenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	108-86-1	
Bromochloromethane	ND	mg/kg	0.0051	1		10/14/14 17:51	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0051	1		10/14/14 17:51	75-27-4	
Bromoform	ND	mg/kg	0.0051	1		10/14/14 17:51	75-25-2	
Bromomethane	ND	mg/kg	0.0051	1		10/14/14 17:51	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		10/14/14 17:51	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		10/14/14 17:51	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0051	1		10/14/14 17:51	56-23-5	
Chlorobenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	108-90-7	
Chloroethane	ND	mg/kg	0.0051	1		10/14/14 17:51	75-00-3	
Chloroform	ND	mg/kg	0.0051	1		10/14/14 17:51	67-66-3	
Chloromethane	ND	mg/kg	0.0051	1		10/14/14 17:51	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0051	1		10/14/14 17:51	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0051	1		10/14/14 17:51	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0051	1		10/14/14 17:51	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0051	1		10/14/14 17:51	106-93-4	
Dibromomethane	ND	mg/kg	0.0051	1		10/14/14 17:51	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		10/14/14 17:51	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0051	1		10/14/14 17:51	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0051	1		10/14/14 17:51	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0051	1		10/14/14 17:51	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0051	1		10/14/14 17:51	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0051	1		10/14/14 17:51	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0051	1		10/14/14 17:51	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0051	1		10/14/14 17:51	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0051	1		10/14/14 17:51	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0051	1		10/14/14 17:51	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0051	1		10/14/14 17:51	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0051	1		10/14/14 17:51	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0051	1		10/14/14 17:51	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0051	1		10/14/14 17:51	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		10/14/14 17:51	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0051	1		10/14/14 17:51	87-68-3	
n-Hexane	ND	mg/kg	0.0051	1		10/14/14 17:51	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		10/14/14 17:51	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		10/14/14 17:51	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: SB-FD-100714-01 Lab ID: 50105019007 Collected: 10/07/14 00:00 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND mg/kg	U	0.0051	1		10/14/14 17:51	98-82-8	
p-Isopropyltoluene	ND mg/kg		0.0051	1		10/14/14 17:51	99-87-6	
Methylene Chloride	ND mg/kg		0.020	1		10/14/14 17:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/kg		0.025	1		10/14/14 17:51	108-10-1	
Methyl-tert-butyl ether	ND mg/kg		0.0051	1		10/14/14 17:51	1634-04-4	
Naphthalene	ND mg/kg		0.0051	1		10/14/14 17:51	91-20-3	
n-Propylbenzene	ND mg/kg		0.0051	1		10/14/14 17:51	103-65-1	
Styrene	ND mg/kg		0.0051	1		10/14/14 17:51	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/kg		0.0051	1		10/14/14 17:51	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/kg		0.0051	1		10/14/14 17:51	79-34-5	
Tetrachloroethene	ND mg/kg		0.0051	1		10/14/14 17:51	127-18-4	
Toluene	ND mg/kg		0.0051	1		10/14/14 17:51	108-88-3	
1,2,3-Trichlorobenzene	ND mg/kg		0.0051	1		10/14/14 17:51	87-61-6	
1,2,4-Trichlorobenzene	ND mg/kg		0.0051	1		10/14/14 17:51	120-82-1	
1,1,1-Trichloroethane	ND mg/kg		0.0051	1		10/14/14 17:51	71-55-6	
1,1,2-Trichloroethane	ND mg/kg	RU	0.0051	1		10/14/14 17:51	79-00-5	
Trichloroethene	ND mg/kg		0.0051	1		10/14/14 17:51	79-01-6	
Trichlorofluoromethane	ND mg/kg		0.0051	1		10/14/14 17:51	75-69-4	
1,2,3-Trichloropropane	ND mg/kg		0.0051	1		10/14/14 17:51	96-18-4	
1,2,4-Trimethylbenzene	ND mg/kg		0.0051	1		10/14/14 17:51	95-63-6	
1,3,5-Trimethylbenzene	ND mg/kg		0.0051	1		10/14/14 17:51	108-67-8	
Vinyl acetate	ND mg/kg		0.10	1		10/14/14 17:51	108-05-4	
Vinyl chloride	ND mg/kg		0.0051	1		10/14/14 17:51	75-01-4	
Xylene (Total)	ND mg/kg		0.010	1		10/14/14 17:51	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98 %		85-118	1		10/14/14 17:51	1868-53-7	
Toluene-d8 (S)	93 %		71-128	1		10/14/14 17:51	2037-26-5	
4-Bromofluorobenzene (S)	92 %		56-144	1		10/14/14 17:51	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	3.3 %	0.10	1	10/10/14 11:51
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: SB-MW-EPA-8-1315 Lab ID: 50105019004 Collected: 10/07/14 11:02 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Acetone	0.12	mg/kg	0.082	1		10/14/14 17:19	67-64-1	
Acrolein	ND	mg/kg	0.082	1		10/14/14 17:19	107-02-8	
Acrylonitrile	ND	mg/kg	0.082	1		10/14/14 17:19	107-13-1	
Benzene	ND	mg/kg	0.0041	1		10/14/14 17:19	71-43-2	
Bromobenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	108-86-1	
Bromochloromethane	ND	mg/kg	0.0041	1		10/14/14 17:19	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0041	1		10/14/14 17:19	75-27-4	
Bromoform	ND	mg/kg	0.0041	1		10/14/14 17:19	75-25-2	
Bromomethane	ND	mg/kg	0.0041	1		10/14/14 17:19	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.020	1		10/14/14 17:19	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	98-06-6	
Carbon disulfide	ND	mg/kg	0.0082	1		10/14/14 17:19	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0041	1		10/14/14 17:19	56-23-5	
Chlorobenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	108-90-7	
Chloroethane	ND	mg/kg	0.0041	1		10/14/14 17:19	75-00-3	
Chloroform	ND	mg/kg	0.0041	1		10/14/14 17:19	67-66-3	
Chloromethane	ND	mg/kg	0.0041	1		10/14/14 17:19	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0041	1		10/14/14 17:19	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0041	1		10/14/14 17:19	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0041	1		10/14/14 17:19	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0041	1		10/14/14 17:19	106-93-4	
Dibromomethane	ND	mg/kg	0.0041	1		10/14/14 17:19	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.082	1		10/14/14 17:19	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0041	1		10/14/14 17:19	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0041	1		10/14/14 17:19	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0041	1		10/14/14 17:19	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0041	1		10/14/14 17:19	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0041	1		10/14/14 17:19	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0041	1		10/14/14 17:19	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0041	1		10/14/14 17:19	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0041	1		10/14/14 17:19	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0041	1		10/14/14 17:19	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0041	1		10/14/14 17:19	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0041	1		10/14/14 17:19	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0041	1		10/14/14 17:19	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.082	1		10/14/14 17:19	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0041	1		10/14/14 17:19	87-68-3	
n-Hexane	ND	mg/kg	0.0041	1		10/14/14 17:19	110-54-3	
2-Hexanone	ND	mg/kg	0.082	1		10/14/14 17:19	591-78-6	
Iodomethane	ND	mg/kg	0.082	1		10/14/14 17:19	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: SB-MW-EPA-8-1315 Lab ID: 50105019004 Collected: 10/07/14 11:02 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.0041	1		10/14/14 17:19	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0041	1		10/14/14 17:19	99-87-6	
Methylene Chloride	ND	mg/kg	0.016	1		10/14/14 17:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.020	1		10/14/14 17:19	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0041	1		10/14/14 17:19	1634-04-4	
Naphthalene	ND	mg/kg	0.0041	1		10/14/14 17:19	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	103-65-1	
Styrene	ND	mg/kg	0.0041	1		10/14/14 17:19	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0041	1		10/14/14 17:19	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0041	1		10/14/14 17:19	79-34-5	
Tetrachloroethene	0.032	mg/kg	0.0041	1		10/14/14 17:19	127-18-4	
Toluene	ND	mg/kg	0.0041	1		10/14/14 17:19	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0041	1		10/14/14 17:19	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0041	1		10/14/14 17:19	79-00-5	
Trichloroethene	ND	mg/kg	0.0041	1		10/14/14 17:19	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0041	1		10/14/14 17:19	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0041	1		10/14/14 17:19	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0041	1		10/14/14 17:19	108-67-8	
Vinyl acetate	ND	mg/kg	0.082	1		10/14/14 17:19	108-05-4	
Vinyl chloride	ND	mg/kg	0.0041	1		10/14/14 17:19	75-01-4	
Xylene (Total)	ND	mg/kg	0.0082	1		10/14/14 17:19	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	88 %		85-118	1		10/14/14 17:19	1868-53-7	
Toluene-d8 (S)	99 %		71-128	1		10/14/14 17:19	2037-26-5	
4-Bromofluorobenzene (S)	94 %		56-144	1		10/14/14 17:19	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	4.1 %	0.10	1	10/10/14 11:49
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: SB-MW-EPA-8-2022 Lab ID: 50105019005 Collected: 10/07/14 11:18 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Acetone	ND	mg/kg	3.8	50		10/14/14 14:56	67-64-1	
Acrolein	ND	mg/kg	3.8	50		10/14/14 14:56	107-02-8	
Acrylonitrile	ND	mg/kg	3.8	50		10/14/14 14:56	107-13-1	
Benzene	ND	mg/kg	0.19	50		10/14/14 14:56	71-43-2	2d
Bromobenzene	ND	mg/kg	0.19	50		10/14/14 14:56	108-86-1	
Bromochloromethane	ND	mg/kg	0.19	50		10/14/14 14:56	74-97-5	
Bromodichloromethane	ND	mg/kg	0.19	50		10/14/14 14:56	75-27-4	
Bromoform	ND	mg/kg	0.19	50		10/14/14 14:56	75-25-2	
Bromomethane	ND	mg/kg	0.19	50		10/14/14 14:56	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.94	50		10/14/14 14:56	78-93-3	
n-Butylbenzene	ND	mg/kg	0.19	50		10/14/14 14:56	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.19	50		10/14/14 14:56	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.19	50		10/14/14 14:56	98-06-6	
Carbon disulfide	ND	mg/kg	0.38	50		10/14/14 14:56	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.19	50		10/14/14 14:56	56-23-5	
Chlorobenzene	ND	mg/kg	0.19	50		10/14/14 14:56	108-90-7	
Chloroethane	ND	mg/kg	0.19	50		10/14/14 14:56	75-00-3	
Chloroform	ND	mg/kg	0.19	50		10/14/14 14:56	67-66-3	
Chloromethane	ND	mg/kg	0.19	50		10/14/14 14:56	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.19	50		10/14/14 14:56	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.19	50		10/14/14 14:56	106-43-4	
Dibromochloromethane	ND	mg/kg	0.19	50		10/14/14 14:56	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.19	50		10/14/14 14:56	106-93-4	
Dibromomethane	ND	mg/kg	0.19	50		10/14/14 14:56	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.19	50		10/14/14 14:56	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.19	50		10/14/14 14:56	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.19	50		10/14/14 14:56	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	3.8	50		10/14/14 14:56	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.19	50		10/14/14 14:56	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.19	50		10/14/14 14:56	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.19	50		10/14/14 14:56	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.19	50		10/14/14 14:56	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.19	50		10/14/14 14:56	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.19	50		10/14/14 14:56	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.19	50		10/14/14 14:56	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.19	50		10/14/14 14:56	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.19	50		10/14/14 14:56	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.19	50		10/14/14 14:56	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.19	50		10/14/14 14:56	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.19	50		10/14/14 14:56	10061-02-6	
Ethylbenzene	ND	mg/kg	0.19	50		10/14/14 14:56	100-41-4	
Ethyl methacrylate	ND	mg/kg	3.8	50		10/14/14 14:56	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.19	50		10/14/14 14:56	87-68-3	
n-Hexane	ND	mg/kg	0.19	50		10/14/14 14:56	110-54-3	
2-Hexanone	ND	mg/kg	3.8	50		10/14/14 14:56	591-78-6	
Iodomethane	ND	mg/kg	3.8	50		10/14/14 14:56	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: SB-MW-EPA-8-2022 Lab ID: 50105019005 Collected: 10/07/14 11:18 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.19	50		10/14/14 14:56	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.19	50		10/14/14 14:56	99-87-6	
Methylene Chloride	ND	mg/kg	0.76	50		10/14/14 14:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.94	50		10/14/14 14:56	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.19	50		10/14/14 14:56	1634-04-4	
Naphthalene	ND	mg/kg	0.19	50		10/14/14 14:56	91-20-3	
n-Propylbenzene	ND	mg/kg	0.19	50		10/14/14 14:56	103-65-1	
Styrene	ND	mg/kg	0.19	50		10/14/14 14:56	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.19	50		10/14/14 14:56	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.19	50		10/14/14 14:56	79-34-5	
Tetrachloroethene	17.1	mg/kg	3.8	1000		10/14/14 15:28	127-18-4	
Toluene	ND	mg/kg	0.19	50		10/14/14 14:56	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.19	50		10/14/14 14:56	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.19	50		10/14/14 14:56	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.19	50		10/14/14 14:56	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.19	50		10/14/14 14:56	79-00-5	
Trichloroethene	2.6	mg/kg	0.19	50		10/14/14 14:56	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.19	50		10/14/14 14:56	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.19	50		10/14/14 14:56	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.19	50		10/14/14 14:56	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.19	50		10/14/14 14:56	108-67-8	
Vinyl acetate	ND	mg/kg	3.8	50		10/14/14 14:56	108-05-4	
Vinyl chloride	ND	mg/kg	0.19	50		10/14/14 14:56	75-01-4	
Xylene (Total)	ND	mg/kg	0.38	50		10/14/14 14:56	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	94 %		85-118	50		10/14/14 14:56	1868-53-7	D4
Toluene-d8 (S)	96 %		71-128	50		10/14/14 14:56	2037-26-5	
4-Bromofluorobenzene (S)	94 %		56-144	50		10/14/14 14:56	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	8.0 %	0.10	1	10/10/14 11:51
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134

Pace Project No.: 50105019

Sample: SB-MW-EPA-8-2426 Lab ID: 50105019006 Collected: 10/07/14 11:30 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Acetone	ND	mg/kg	4.4	50		10/14/14 16:00	67-64-1	
Acrolein	ND	mg/kg	4.4	50		10/14/14 16:00	107-02-8	
Acrylonitrile	ND	mg/kg	4.4	50		10/14/14 16:00	107-13-1	
Benzene	ND	mg/kg	0.22	50		10/14/14 16:00	71-43-2	2d
Bromobenzene	ND	mg/kg	0.22	50		10/14/14 16:00	108-86-1	
Bromochloromethane	ND	mg/kg	0.22	50		10/14/14 16:00	74-97-5	
Bromodichloromethane	ND	mg/kg	0.22	50		10/14/14 16:00	75-27-4	
Bromoform	ND	mg/kg	0.22	50		10/14/14 16:00	75-25-2	
Bromomethane	ND	mg/kg	0.22	50		10/14/14 16:00	74-83-9	
2-Butanone (MEK)	ND	mg/kg	1.1	50		10/14/14 16:00	78-93-3	
n-Butylbenzene	ND	mg/kg	0.22	50		10/14/14 16:00	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.22	50		10/14/14 16:00	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.22	50		10/14/14 16:00	98-06-6	
Carbon disulfide	ND	mg/kg	0.44	50		10/14/14 16:00	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.22	50		10/14/14 16:00	56-23-5	
Chlorobenzene	ND	mg/kg	0.22	50		10/14/14 16:00	108-90-7	
Chloroethane	ND	mg/kg	0.22	50		10/14/14 16:00	75-00-3	
Chloroform	ND	mg/kg	0.22	50		10/14/14 16:00	67-66-3	
Chloromethane	ND	mg/kg	0.22	50		10/14/14 16:00	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.22	50		10/14/14 16:00	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.22	50		10/14/14 16:00	106-43-4	
Dibromochloromethane	ND	mg/kg	0.22	50		10/14/14 16:00	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.22	50		10/14/14 16:00	106-93-4	
Dibromomethane	ND	mg/kg	0.22	50		10/14/14 16:00	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.22	50		10/14/14 16:00	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.22	50		10/14/14 16:00	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.22	50		10/14/14 16:00	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	4.4	50		10/14/14 16:00	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.22	50		10/14/14 16:00	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.22	50		10/14/14 16:00	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.22	50		10/14/14 16:00	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.22	50		10/14/14 16:00	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.22	50		10/14/14 16:00	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.22	50		10/14/14 16:00	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.22	50		10/14/14 16:00	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.22	50		10/14/14 16:00	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.22	50		10/14/14 16:00	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.22	50		10/14/14 16:00	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.22	50		10/14/14 16:00	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.22	50		10/14/14 16:00	10061-02-6	
Ethylbenzene	ND	mg/kg	0.22	50		10/14/14 16:00	100-41-4	
Ethyl methacrylate	ND	mg/kg	4.4	50		10/14/14 16:00	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.22	50		10/14/14 16:00	87-68-3	
n-Hexane	ND	mg/kg	0.22	50		10/14/14 16:00	110-54-3	
2-Hexanone	ND	mg/kg	4.4	50		10/14/14 16:00	591-78-6	
Iodomethane	ND	mg/kg	4.4	50		10/14/14 16:00	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: **SB-MW-EPA-8-2426** Lab ID: **50105019006** Collected: 10/07/14 11:30 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.22	50		10/14/14 16:00	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.22	50		10/14/14 16:00	99-87-6	
Methylene Chloride	ND	mg/kg	0.89	50		10/14/14 16:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	1.1	50		10/14/14 16:00	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.22	50		10/14/14 16:00	1634-04-4	
Naphthalene	ND	mg/kg	0.22	50		10/14/14 16:00	91-20-3	
n-Propylbenzene	ND	mg/kg	0.22	50		10/14/14 16:00	103-65-1	
Styrene	ND	mg/kg	0.22	50		10/14/14 16:00	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.22	50		10/14/14 16:00	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.22	50		10/14/14 16:00	79-34-5	
Tetrachloroethene	2040	mg/kg	88.6	20000		10/15/14 23:23	127-18-4	
Toluene	0.23	mg/kg	0.22	50		10/14/14 16:00	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.22	50		10/14/14 16:00	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.22	50		10/14/14 16:00	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.22	50		10/14/14 16:00	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.22	50		10/14/14 16:00	79-00-5	
Trichloroethene	411	mg/kg	22.1	5000		10/15/14 14:38	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.22	50		10/14/14 16:00	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.22	50		10/14/14 16:00	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.22	50		10/14/14 16:00	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.22	50		10/14/14 16:00	108-67-8	
Vinyl acetate	ND	mg/kg	4.4	50		10/14/14 16:00	108-05-4	
Vinyl chloride	ND	mg/kg	0.22	50		10/14/14 16:00	75-01-4	
Xylene (Total)	0.78	mg/kg	0.44	50		10/14/14 16:00	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	92 %		85-118	50		10/14/14 16:00	1868-53-7	D4
Toluene-d8 (S)	90 %		71-128	50		10/14/14 16:00	2037-26-5	
4-Bromofluorobenzene (S)	96 %		56-144	50		10/14/14 16:00	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	8.4 %	0.10	1	10/10/14 11:51
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134

Pace Project No.: 50105019

Sample: TB-100714-01 Lab ID: 50105019001 Collected: 10/07/14 07:00 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Acetone	ND	mg/kg	0.10	1		10/14/14 15:44	67-64-1	
Acrolein	ND	mg/kg	0.10	1		10/14/14 15:44	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		10/14/14 15:44	107-13-1	
Benzene	ND	mg/kg	0.0050	1		10/14/14 15:44	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		10/14/14 15:44	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		10/14/14 15:44	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		10/14/14 15:44	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		10/14/14 15:44	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		10/14/14 15:44	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		10/14/14 15:44	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		10/14/14 15:44	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		10/14/14 15:44	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		10/14/14 15:44	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		10/14/14 15:44	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		10/14/14 15:44	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		10/14/14 15:44	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		10/14/14 15:44	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		10/14/14 15:44	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		10/14/14 15:44	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		10/14/14 15:44	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		10/14/14 15:44	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		10/14/14 15:44	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		10/14/14 15:44	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		10/14/14 15:44	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		10/14/14 15:44	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		10/14/14 15:44	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		10/14/14 15:44	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		10/14/14 15:44	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		10/14/14 15:44	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		10/14/14 15:44	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		10/14/14 15:44	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		10/14/14 15:44	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		10/14/14 15:44	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		10/14/14 15:44	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		10/14/14 15:44	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		10/14/14 15:44	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		10/14/14 15:44	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: TB-100714-01 Lab ID: 50105019001 Collected: 10/07/14 07:00 Received: 10/08/14 10:39 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		10/14/14 15:44	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0050	1		10/14/14 15:44	99-87-6	
Methylene Chloride	ND	mg/kg	0.020	1		10/14/14 15:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		10/14/14 15:44	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0050	1		10/14/14 15:44	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		10/14/14 15:44	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	103-65-1	
Styrene	ND	mg/kg	0.0050	1		10/14/14 15:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		10/14/14 15:44	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		10/14/14 15:44	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0050	1		10/14/14 15:44	127-18-4	
Toluene	ND	mg/kg	0.0050	1		10/14/14 15:44	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		10/14/14 15:44	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		10/14/14 15:44	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		10/14/14 15:44	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		10/14/14 15:44	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0050	1		10/14/14 15:44	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		10/14/14 15:44	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		10/14/14 15:44	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		10/14/14 15:44	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		10/14/14 15:44	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	94 %		85-118	1		10/14/14 15:44	1868-53-7	
Toluene-d8 (S)	96 %		71-128	1		10/14/14 15:44	2037-26-5	
4-Bromofluorobenzene (S)	94 %		56-144	1		10/14/14 15:44	460-00-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: GW-SB-MW-EPA-8-100714 Lab ID: 50105019009 Collected: 10/07/14 12:50 Received: 10/08/14 10:39 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	U	1.0	10		10/12/14 14:13	67-64-1	
Acrolein	ND mg/L		0.50	10		10/12/14 14:13	107-02-8	
Acrylonitrile	ND mg/L		1.0	10		10/12/14 14:13	107-13-1	
Benzene	ND mg/L		0.050	10		10/12/14 14:13	71-43-2	1d
Bromobenzene	ND mg/L		0.050	10		10/12/14 14:13	108-86-1	
Bromochloromethane	ND mg/L		0.050	10		10/12/14 14:13	74-97-5	
Bromodichloromethane	ND mg/L		0.050	10		10/12/14 14:13	75-27-4	
Bromoform	ND mg/L		0.050	10		10/12/14 14:13	75-25-2	
Bromomethane	ND mg/L		0.050	10		10/12/14 14:13	74-83-9	
2-Butanone (MEK)	ND mg/L		0.25	10		10/12/14 14:13	78-93-3	
n-Butylbenzene	ND mg/L		0.050	10		10/12/14 14:13	104-51-8	
sec-Butylbenzene	ND mg/L		0.050	10		10/12/14 14:13	135-98-8	
tert-Butylbenzene	ND mg/L		0.050	10		10/12/14 14:13	98-06-6	
Carbon disulfide	ND mg/L		0.10	10		10/12/14 14:13	75-15-0	
Carbon tetrachloride	ND mg/L		0.050	10		10/12/14 14:13	56-23-5	
Chlorobenzene	ND mg/L		0.050	10		10/12/14 14:13	108-90-7	
Chloroethane	ND mg/L		0.050	10		10/12/14 14:13	75-00-3	
Chloroform	ND mg/L		0.050	10		10/12/14 14:13	67-66-3	
Chloromethane	ND mg/L		0.050	10		10/12/14 14:13	74-87-3	
2-Chlorotoluene	ND mg/L		0.050	10		10/12/14 14:13	95-49-8	
4-Chlorotoluene	ND mg/L		0.050	10		10/12/14 14:13	106-43-4	
Dibromochloromethane	ND mg/L		0.050	10		10/12/14 14:13	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.050	10		10/12/14 14:13	106-93-4	
Dibromomethane	ND mg/L		0.050	10		10/12/14 14:13	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.050	10		10/12/14 14:13	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.050	10		10/12/14 14:13	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.050	10		10/12/14 14:13	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		1.0	10		10/12/14 14:13	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.050	10		10/12/14 14:13	75-71-8	
1,1-Dichloroethane	ND mg/L		0.050	10		10/12/14 14:13	75-34-3	
1,2-Dichloroethane	ND mg/L		0.050	10		10/12/14 14:13	107-06-2	
1,1-Dichloroethene	ND mg/L		0.050	10		10/12/14 14:13	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.050	10		10/12/14 14:13	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.050	10		10/12/14 14:13	156-60-5	
1,2-Dichloropropane	ND mg/L		0.050	10		10/12/14 14:13	78-87-5	
1,3-Dichloropropane	ND mg/L		0.050	10		10/12/14 14:13	142-28-9	
2,2-Dichloropropane	ND mg/L		0.050	10		10/12/14 14:13	594-20-7	
1,1-Dichloropropene	ND mg/L		0.050	10		10/12/14 14:13	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.050	10		10/12/14 14:13	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.050	10		10/12/14 14:13	10061-02-6	
Ethylbenzene	ND mg/L		0.050	10		10/12/14 14:13	100-41-4	
Ethyl methacrylate	ND mg/L		1.0	10		10/12/14 14:13	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.050	10		10/12/14 14:13	87-68-3	
n-Hexane	ND mg/L		0.050	10		10/12/14 14:13	110-54-3	
2-Hexanone	ND mg/L		0.25	10		10/12/14 14:13	591-78-6	
Iodomethane	ND mg/L		0.10	10		10/12/14 14:13	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.050	10		10/12/14 14:13	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: **GW-SB-MW-EPA-8-100714** Lab ID: **50105019009** Collected: 10/07/14 12:50 Received: 10/08/14 10:39 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.050	10		10/12/14 14:13	99-87-6	
Methylene Chloride	ND mg/L	U	0.050	10		10/12/14 14:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.25	10		10/12/14 14:13	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.040	10		10/12/14 14:13	1634-04-4	
Naphthalene	ND mg/L	U	0.050	10		10/12/14 14:13	91-20-3	
n-Propylbenzene	ND mg/L	U	0.050	10		10/12/14 14:13	103-65-1	
Styrene	ND mg/L	U	0.050	10		10/12/14 14:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.050	10		10/12/14 14:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.050	10		10/12/14 14:13	79-34-5	
Tetrachloroethene	13.4 mg/L	U	2.5	500		10/12/14 14:52	127-18-4	pH
Toluene	ND mg/L	U	0.050	10		10/12/14 14:13	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.050	10		10/12/14 14:13	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.050	10		10/12/14 14:13	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.050	10		10/12/14 14:13	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.050	10		10/12/14 14:13	79-00-5	
Trichloroethene	0.18 mg/L	U	0.050	10		10/12/14 14:13	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.050	10		10/12/14 14:13	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.050	10		10/12/14 14:13	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.050	10		10/12/14 14:13	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.050	10		10/12/14 14:13	108-67-8	
Vinyl acetate	ND mg/L	U	0.50	10		10/12/14 14:13	108-05-4	
Vinyl chloride	ND mg/L	U	0.020	10		10/12/14 14:13	75-01-4	
Xylene (Total)	ND mg/L	U	0.10	10		10/12/14 14:13	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	96 %		79-116	10		10/12/14 14:13	1868-53-7	D4,pH
4-Bromofluorobenzene (S)	92 %		80-114	10		10/12/14 14:13	460-00-4	
Toluene-d8 (S)	95 %		81-110	10		10/12/14 14:13	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134

Pace Project No.: 50105019

Sample: RB-100714-01 Lab ID: 50105019010 Collected: 10/07/14 17:00 Received: 10/08/14 10:39 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/12/14 15:32	67-64-1	
Acrolein	ND mg/L		0.050	1		10/12/14 15:32	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/12/14 15:32	107-13-1	
Benzene	ND mg/L		0.0050	1		10/12/14 15:32	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/12/14 15:32	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/12/14 15:32	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/12/14 15:32	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/12/14 15:32	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/12/14 15:32	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/12/14 15:32	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/12/14 15:32	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/12/14 15:32	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/12/14 15:32	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/12/14 15:32	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/12/14 15:32	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/12/14 15:32	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/12/14 15:32	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/12/14 15:32	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/12/14 15:32	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/12/14 15:32	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/12/14 15:32	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/12/14 15:32	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/12/14 15:32	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/12/14 15:32	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/12/14 15:32	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/12/14 15:32	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/12/14 15:32	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/12/14 15:32	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/12/14 15:32	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/12/14 15:32	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/12/14 15:32	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/12/14 15:32	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/12/14 15:32	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/12/14 15:32	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/12/14 15:32	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/12/14 15:32	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/12/14 15:32	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/12/14 15:32	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/12/14 15:32	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/12/14 15:32	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/12/14 15:32	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/12/14 15:32	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/12/14 15:32	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/12/14 15:32	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/12/14 15:32	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/12/14 15:32	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/12/14 15:32	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: RB-100714-01 Lab ID: 50105019010 Collected: 10/07/14 17:00 Received: 10/08/14 10:39 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND	mg/L	0.0050	1		10/12/14 15:32	99-87-6	
Methylene Chloride	ND	mg/L	0.0050	1		10/12/14 15:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.025	1		10/12/14 15:32	108-10-1	
Methyl-tert-butyl ether	ND	mg/L	0.0040	1		10/12/14 15:32	1634-04-4	
Naphthalene	ND	mg/L	0.0050	1		10/12/14 15:32	91-20-3	
n-Propylbenzene	ND	mg/L	0.0050	1		10/12/14 15:32	103-65-1	
Styrene	ND	mg/L	0.0050	1		10/12/14 15:32	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0050	1		10/12/14 15:32	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0050	1		10/12/14 15:32	79-34-5	
Tetrachloroethene	ND	mg/L	0.0050	1		10/12/14 15:32	127-18-4	
Toluene	ND	mg/L	0.0050	1		10/12/14 15:32	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/L	0.0050	1		10/12/14 15:32	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/L	0.0050	1		10/12/14 15:32	120-82-1	
1,1,1-Trichloroethane	ND	mg/L	0.0050	1		10/12/14 15:32	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0050	1		10/12/14 15:32	79-00-5	
Trichloroethene	ND	mg/L	0.0050	1		10/12/14 15:32	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0050	1		10/12/14 15:32	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0050	1		10/12/14 15:32	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/L	0.0050	1		10/12/14 15:32	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/L	0.0050	1		10/12/14 15:32	108-67-8	
Vinyl acetate	ND	mg/L	0.050	1		10/12/14 15:32	108-05-4	
Vinyl chloride	ND	mg/L	0.0020	1		10/12/14 15:32	75-01-4	
Xylene (Total)	ND	mg/L	0.010	1		10/12/14 15:32	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%	79-116	1		10/12/14 15:32	1868-53-7	
4-Bromofluorobenzene (S)	91	%	80-114	1		10/12/14 15:32	460-00-4	
Toluene-d8 (S)	94	%	81-110	1		10/12/14 15:32	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: TB-100714-02		Lab ID: 50105019008	Collected: 10/07/14 07:05	Received: 10/08/14 10:39	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/12/14 13:34	67-64-1	
Acrolein	ND mg/L		0.050	1		10/12/14 13:34	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/12/14 13:34	107-13-1	
Benzene	ND mg/L		0.0050	1		10/12/14 13:34	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/12/14 13:34	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/12/14 13:34	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/12/14 13:34	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/12/14 13:34	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/12/14 13:34	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/12/14 13:34	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/12/14 13:34	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/12/14 13:34	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/12/14 13:34	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/12/14 13:34	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/12/14 13:34	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/12/14 13:34	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/12/14 13:34	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/12/14 13:34	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/12/14 13:34	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/12/14 13:34	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/12/14 13:34	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/12/14 13:34	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/12/14 13:34	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/12/14 13:34	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/12/14 13:34	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/12/14 13:34	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/12/14 13:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/12/14 13:34	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/12/14 13:34	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/12/14 13:34	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/12/14 13:34	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/12/14 13:34	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/12/14 13:34	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/12/14 13:34	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/12/14 13:34	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/12/14 13:34	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/12/14 13:34	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/12/14 13:34	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/12/14 13:34	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/12/14 13:34	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/12/14 13:34	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/12/14 13:34	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/12/14 13:34	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/12/14 13:34	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/12/14 13:34	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/12/14 13:34	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/12/14 13:34	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site 30281-134
Pace Project No.: 50105019

Sample: TB-100714-02		Lab ID: 50105019008	Collected: 10/07/14 07:05	Received: 10/08/14 10:39	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
p-Isopropyltoluene	ND mg/L		0.0050	1		10/12/14 13:34	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/12/14 13:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/12/14 13:34	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/12/14 13:34	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/12/14 13:34	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/12/14 13:34	103-65-1	
Styrene	ND mg/L		0.0050	1		10/12/14 13:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/12/14 13:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/12/14 13:34	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/12/14 13:34	127-18-4	
Toluene	ND mg/L		0.0050	1		10/12/14 13:34	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/12/14 13:34	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/12/14 13:34	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/12/14 13:34	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/12/14 13:34	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/12/14 13:34	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/12/14 13:34	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/12/14 13:34	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/12/14 13:34	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/12/14 13:34	108-67-8	
Vinyl acetate	ND mg/L	0.050	1		10/12/14 13:34	108-05-4		
Vinyl chloride	ND mg/L	0.0020	1		10/12/14 13:34	75-01-4		
Xylene (Total)	ND mg/L	0.010	1		10/12/14 13:34	1330-20-7		
Surrogates								
Dibromofluoromethane (S)	105 %.		79-116	1		10/12/14 13:34	1868-53-7	
4-Bromofluorobenzene (S)	97 %.		80-114	1		10/12/14 13:34	460-00-4	
Toluene-d8 (S)	99 %.		81-110	1		10/12/14 13:34	2037-26-5	

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DATA VALIDATION CHECKLIST – STAGE 4

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Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/22/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	50105130	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – SW-846 Method 8260B		
Samples	SB-MW-EPA-7-0103; SB-MW-EPA-7-0810; SB-MW-EPA-7-1517; SB-MW-EPA-14-0204; SB-MW-EPA-14-0810; and SB-MW-EPA-14-1820		
Field Duplicates	SB-MW-EPA-7-1517 and SB-FD-100914-01		
Field Blanks	RB-100914-01; TB-100914-01; and TB-100914-02		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
	Cooler received at 1.7 degrees Celsius – no action (samples received intact and not frozen)

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 2 of 5)

Initial Calibration:

Within Criteria	Exceedance/Notes
	10/13/14 (17:07-20:50): RRF exceeded criteria for bromodichloromethane and 1,1,2-trichloroethane – flag “R” for all samples in data package

Continuing Calibration:

Within Criteria	Exceedance/Notes
	10/16/14 (00:27): %D exceeded criteria for chloroethane; chloromethane; and iodomethane – flag “UJ” for RB-100914-01 and TB-100914-02 10/16/14 (11:53): %D exceeded criteria for acrolein; bromomethane; carbon disulfide; trans-1,4-dichloro-2-butene; ethyl methacrylate; iodomethane; and methyl tert-butyl ether – flag “UJ” for SB-MW-EPA-7-0103, SB-MW-EPA-7-0810, SB-MW-EPA-7-1517, SB-MW-EPA-14-0204, SB-MW-EPA-14-0810, and TB-100914-01 10/16/14 (23:35): %D exceeded criteria for carbon disulfide – flag “UJ” for SB-MW-EPA-14-1820 and SB-FD-100914-01

Calibration Verification:

Within Criteria	Exceedance/Notes
	10/13/14 (21:54): %D exceeded criteria for bromomethane; carbon disulfide; and ethyl methacrylate – flag “UJ” for all samples in data package

Method blanks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Field blanks:

Within Criteria	Exceedance/Notes
X	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
X	

MS/MSD:

Within Criteria	Exceedance/Notes
	SB-MW-EPA-7-0103: high %Rs for carbon disulfide and iodomethane - no action (ND) low %Rs for vinyl acetate – flag “UJ” high RPD for hexachloro-1,3-butadiene and n-butylbenzene – no action (ND)

Field duplicates:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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LCSs/LCSDs:

Within Criteria	Exceedance/Notes
	1172983: high %R for carbon disulfide – no action (associated results non-detect) 1173376: high %Rs for carbon disulfide; iodomethane; and methyl tert-butyl ether – no action (associated results non-detect) 1173482: high %Rs for carbon disulfide and iodomethane; – no action (associated results non-detect)

Sample dilutions:

Within Criteria	Exceedance/Notes
	None required

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None required

Internal Standards:

Within Criteria	Exceedance/Notes
X	

Target analyte identification:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action

System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-7-0103 Lab ID: 50105130003 Collected: 10/09/14 09:40 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Acetone	ND	mg/kg	0.084	1		10/16/14 19:21	67-64-1	
Acrolein	ND	mg/kg	0.084	1		10/16/14 19:21	107-02-8	
Acrylonitrile	ND	mg/kg	0.084	1		10/16/14 19:21	107-13-1	
Benzene	ND	mg/kg	0.0042	1		10/16/14 19:21	71-43-2	
Bromobenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	108-86-1	
Bromochloromethane	ND	mg/kg	0.0042	1		10/16/14 19:21	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0042	1		10/16/14 19:21	75-27-4	
Bromoform	ND	mg/kg	0.0042	1		10/16/14 19:21	75-25-2	
Bromomethane	ND	mg/kg	0.0042	1		10/16/14 19:21	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.021	1		10/16/14 19:21	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	98-06-6	
Carbon disulfide	ND	mg/kg	0.0084	1		10/16/14 19:21	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0042	1		10/16/14 19:21	56-23-5	
Chlorobenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	108-90-7	
Chloroethane	ND	mg/kg	0.0042	1		10/16/14 19:21	75-00-3	
Chloroform	ND	mg/kg	0.0042	1		10/16/14 19:21	67-66-3	
Chloromethane	ND	mg/kg	0.0042	1		10/16/14 19:21	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0042	1		10/16/14 19:21	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0042	1		10/16/14 19:21	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0042	1		10/16/14 19:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0042	1		10/16/14 19:21	106-93-4	
Dibromomethane	ND	mg/kg	0.0042	1		10/16/14 19:21	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.084	1		10/16/14 19:21	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0042	1		10/16/14 19:21	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0042	1		10/16/14 19:21	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0042	1		10/16/14 19:21	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0042	1		10/16/14 19:21	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0042	1		10/16/14 19:21	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0042	1		10/16/14 19:21	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0042	1		10/16/14 19:21	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0042	1		10/16/14 19:21	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0042	1		10/16/14 19:21	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0042	1		10/16/14 19:21	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0042	1		10/16/14 19:21	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0042	1		10/16/14 19:21	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0042	1		10/16/14 19:21	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.084	1		10/16/14 19:21	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0042	1		10/16/14 19:21	87-68-3	
n-Hexane	ND	mg/kg	0.0042	1		10/16/14 19:21	110-54-3	
2-Hexanone	ND	mg/kg	0.084	1		10/16/14 19:21	591-78-6	
Iodomethane	ND	mg/kg	0.084	1		10/16/14 19:21	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-7-0103 Lab ID: 50105130003 Collected: 10/09/14 09:40 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA								
Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND mg/kg	U	0.0042	1		10/16/14 19:21	98-82-8	
p-Isopropyltoluene	ND mg/kg	U	0.0042	1		10/16/14 19:21	99-87-6	
Methylene Chloride	ND mg/kg	U	0.017	1		10/16/14 19:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/kg	U	0.021	1		10/16/14 19:21	108-10-1	
Methyl-tert-butyl ether	ND mg/kg	U	0.0042	1		10/16/14 19:21	1634-04-4	
Naphthalene	ND mg/kg	U	0.0042	1		10/16/14 19:21	91-20-3	
n-Propylbenzene	ND mg/kg	U	0.0042	1		10/16/14 19:21	103-65-1	
Styrene	ND mg/kg	U	0.0042	1		10/16/14 19:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/kg	U	0.0042	1		10/16/14 19:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/kg	U	0.0042	1		10/16/14 19:21	79-34-5	
Tetrachloroethene	ND mg/kg	U	0.0042	1		10/16/14 19:21	127-18-4	
Toluene	ND mg/kg	U	0.0042	1		10/16/14 19:21	108-88-3	
1,2,3-Trichlorobenzene	ND mg/kg	U	0.0042	1		10/16/14 19:21	87-61-6	
1,2,4-Trichlorobenzene	ND mg/kg	U	0.0042	1		10/16/14 19:21	120-82-1	
1,1,1-Trichloroethane	ND mg/kg	U	0.0042	1		10/16/14 19:21	71-55-6	
1,1,2-Trichloroethane	ND mg/kg	U	0.0042	1		10/16/14 19:21	79-00-5	
Trichloroethene	ND mg/kg	U	0.0042	1		10/16/14 19:21	79-01-6	
Trichlorofluoromethane	ND mg/kg	U	0.0042	1		10/16/14 19:21	75-69-4	
1,2,3-Trichloropropane	ND mg/kg	U	0.0042	1		10/16/14 19:21	96-18-4	
1,2,4-Trimethylbenzene	ND mg/kg	U	0.0042	1		10/16/14 19:21	95-63-6	
1,3,5-Trimethylbenzene	ND mg/kg	U	0.0042	1		10/16/14 19:21	108-67-8	
Vinyl acetate	ND mg/kg	U	0.084	1		10/16/14 19:21	108-05-4	
Vinyl chloride	ND mg/kg	U	0.0042	1		10/16/14 19:21	75-01-4	
Xylene (Total)	ND mg/kg	U	0.0084	1		10/16/14 19:21	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98 %		85-118	1		10/16/14 19:21	1868-53-7	
Toluene-d8 (S)	93 %		71-128	1		10/16/14 19:21	2037-26-5	
4-Bromofluorobenzene (S)	95 %		56-144	1		10/16/14 19:21	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture 15.9 % 0.10 1 10/15/14 07:31

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-7-0810 Lab ID: 50105130004 Collected: 10/09/14 09:57 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.087	1		10/16/14 17:13	67-64-1	
Acrolein	ND	mg/kg	0.087	1		10/16/14 17:13	107-02-8	
Acrylonitrile	ND	mg/kg	0.087	1		10/16/14 17:13	107-13-1	
Benzene	ND	mg/kg	0.0044	1		10/16/14 17:13	71-43-2	
Bromobenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	108-86-1	
Bromochloromethane	ND	mg/kg	0.0044	1		10/16/14 17:13	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0044	1		10/16/14 17:13	75-27-4	
Bromoform	ND	mg/kg	0.0044	1		10/16/14 17:13	75-25-2	
Bromomethane	ND	mg/kg	0.0044	1		10/16/14 17:13	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.022	1		10/16/14 17:13	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	98-06-6	
Carbon disulfide	ND	mg/kg	0.0087	1		10/16/14 17:13	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0044	1		10/16/14 17:13	56-23-5	
Chlorobenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	108-90-7	
Chloroethane	ND	mg/kg	0.0044	1		10/16/14 17:13	75-00-3	
Chloroform	ND	mg/kg	0.0044	1		10/16/14 17:13	67-66-3	
Chloromethane	ND	mg/kg	0.0044	1		10/16/14 17:13	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0044	1		10/16/14 17:13	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0044	1		10/16/14 17:13	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0044	1		10/16/14 17:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0044	1		10/16/14 17:13	106-93-4	
Dibromomethane	ND	mg/kg	0.0044	1		10/16/14 17:13	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.087	1		10/16/14 17:13	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0044	1		10/16/14 17:13	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0044	1		10/16/14 17:13	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0044	1		10/16/14 17:13	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0044	1		10/16/14 17:13	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0044	1		10/16/14 17:13	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0044	1		10/16/14 17:13	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0044	1		10/16/14 17:13	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0044	1		10/16/14 17:13	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0044	1		10/16/14 17:13	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0044	1		10/16/14 17:13	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0044	1		10/16/14 17:13	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0044	1		10/16/14 17:13	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.087	1		10/16/14 17:13	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0044	1		10/16/14 17:13	87-68-3	
n-Hexane	ND	mg/kg	0.0044	1		10/16/14 17:13	110-54-3	
2-Hexanone	ND	mg/kg	0.087	1		10/16/14 17:13	591-78-6	
Iodomethane	ND	mg/kg	0.087	1		10/16/14 17:13	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-7-0810 Lab ID: 50105130004 Collected: 10/09/14 09:57 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.0044	1		10/16/14 17:13	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0044	1		10/16/14 17:13	99-87-6	
Methylene Chloride	ND	mg/kg	0.017	1		10/16/14 17:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.022	1		10/16/14 17:13	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0044	1		10/16/14 17:13	1634-04-4	
Naphthalene	ND	mg/kg	0.0044	1		10/16/14 17:13	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	103-65-1	
Styrene	ND	mg/kg	0.0044	1		10/16/14 17:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0044	1		10/16/14 17:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0044	1		10/16/14 17:13	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0044	1		10/16/14 17:13	127-18-4	
Toluene	ND	mg/kg	0.0044	1		10/16/14 17:13	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0044	1		10/16/14 17:13	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0044	1		10/16/14 17:13	79-00-5	
Trichloroethene	ND	mg/kg	0.0044	1		10/16/14 17:13	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0044	1		10/16/14 17:13	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0044	1		10/16/14 17:13	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0044	1		10/16/14 17:13	108-67-8	
Vinyl acetate	ND	mg/kg	0.087	1		10/16/14 17:13	108-05-4	
Vinyl chloride	ND	mg/kg	0.0044	1		10/16/14 17:13	75-01-4	
Xylene (Total)	ND	mg/kg	0.0087	1		10/16/14 17:13	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95 %		85-118	1		10/16/14 17:13	1868-53-7	
Toluene-d8 (S)	94 %		71-128	1		10/16/14 17:13	2037-26-5	
4-Bromofluorobenzene (S)	95 %		56-144	1		10/16/14 17:13	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture 4.9 % 0.10 1 10/15/14 07:31

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site

Pace Project No.: 50105130

Sample: SB-MW-EPA-7-1517 Lab ID: 50105130005 Collected: 10/09/14 10:18 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.086	1		10/16/14 17:45	67-64-1	
Acrolein	ND	mg/kg	0.086	1		10/16/14 17:45	107-02-8	
Acrylonitrile	ND	mg/kg	0.086	1		10/16/14 17:45	107-13-1	
Benzene	ND	mg/kg	0.0043	1		10/16/14 17:45	71-43-2	
Bromobenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	108-86-1	
Bromochloromethane	ND	mg/kg	0.0043	1		10/16/14 17:45	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0043	1		10/16/14 17:45	75-27-4	
Bromoform	ND	mg/kg	0.0043	1		10/16/14 17:45	75-25-2	
Bromomethane	ND	mg/kg	0.0043	1		10/16/14 17:45	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.022	1		10/16/14 17:45	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	98-06-6	
Carbon disulfide	ND	mg/kg	0.0086	1		10/16/14 17:45	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0043	1		10/16/14 17:45	56-23-5	
Chlorobenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	108-90-7	
Chloroethane	ND	mg/kg	0.0043	1		10/16/14 17:45	75-00-3	
Chloroform	ND	mg/kg	0.0043	1		10/16/14 17:45	67-66-3	
Chloromethane	ND	mg/kg	0.0043	1		10/16/14 17:45	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0043	1		10/16/14 17:45	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0043	1		10/16/14 17:45	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0043	1		10/16/14 17:45	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0043	1		10/16/14 17:45	106-93-4	
Dibromomethane	ND	mg/kg	0.0043	1		10/16/14 17:45	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.086	1		10/16/14 17:45	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0043	1		10/16/14 17:45	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0043	1		10/16/14 17:45	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0043	1		10/16/14 17:45	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0043	1		10/16/14 17:45	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0043	1		10/16/14 17:45	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0043	1		10/16/14 17:45	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0043	1		10/16/14 17:45	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0043	1		10/16/14 17:45	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0043	1		10/16/14 17:45	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0043	1		10/16/14 17:45	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0043	1		10/16/14 17:45	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0043	1		10/16/14 17:45	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.086	1		10/16/14 17:45	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0043	1		10/16/14 17:45	87-68-3	
n-Hexane	ND	mg/kg	0.0043	1		10/16/14 17:45	110-54-3	
2-Hexanone	ND	mg/kg	0.086	1		10/16/14 17:45	591-78-6	
Iodomethane	ND	mg/kg	0.086	1		10/16/14 17:45	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-7-1517 Lab ID: 50105130005 Collected: 10/09/14 10:18 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.0043	1		10/16/14 17:45	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0043	1		10/16/14 17:45	99-87-6	
Methylene Chloride	ND	mg/kg	0.017	1		10/16/14 17:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.022	1		10/16/14 17:45	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0043	1		10/16/14 17:45	1634-04-4	
Naphthalene	ND	mg/kg	0.0043	1		10/16/14 17:45	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	103-65-1	
Styrene	ND	mg/kg	0.0043	1		10/16/14 17:45	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0043	1		10/16/14 17:45	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0043	1		10/16/14 17:45	79-34-5	
Tetrachloroethene	0.043	mg/kg	0.0043	1		10/16/14 17:45	127-18-4	
Toluene	ND	mg/kg	0.0043	1		10/16/14 17:45	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0043	1		10/16/14 17:45	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0043	1		10/16/14 17:45	79-00-5	
Trichloroethene	ND	mg/kg	0.0043	1		10/16/14 17:45	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0043	1		10/16/14 17:45	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0043	1		10/16/14 17:45	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0043	1		10/16/14 17:45	108-67-8	
Vinyl acetate	ND	mg/kg	0.086	1		10/16/14 17:45	108-05-4	
Vinyl chloride	ND	mg/kg	0.0043	1		10/16/14 17:45	75-01-4	
Xylene (Total)	ND	mg/kg	0.0086	1		10/16/14 17:45	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95 %		85-118	1		10/16/14 17:45	1868-53-7	
Toluene-d8 (S)	98 %		71-128	1		10/16/14 17:45	2037-26-5	
4-Bromofluorobenzene (S)	88 %		56-144	1		10/16/14 17:45	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	4.1 %	0.10	1	10/15/14 07:31
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-FD-100914-01 Lab ID: 50105130010 Collected: 10/09/14 00:00 Received: 10/10/14 10:04 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Acetone	ND mg/kg	U	0.082	1		10/17/14 02:46	67-64-1	
Acrolein	ND mg/kg		0.082	1		10/17/14 02:46	107-02-8	
Acrylonitrile	ND mg/kg		0.082	1		10/17/14 02:46	107-13-1	
Benzene	ND mg/kg		0.0041	1		10/17/14 02:46	71-43-2	
Bromobenzene	ND mg/kg		0.0041	1		10/17/14 02:46	108-86-1	
Bromochloromethane	ND mg/kg		0.0041	1		10/17/14 02:46	74-97-5	
Bromodichloromethane	ND mg/kg		0.0041	1		10/17/14 02:46	75-27-4	
Bromoform	ND mg/kg		0.0041	1		10/17/14 02:46	75-25-2	
Bromomethane	ND mg/kg		0.0041	1		10/17/14 02:46	74-83-9	
2-Butanone (MEK)	ND mg/kg		0.020	1		10/17/14 02:46	78-93-3	
n-Butylbenzene	ND mg/kg		0.0041	1		10/17/14 02:46	104-51-8	
sec-Butylbenzene	ND mg/kg		0.0041	1		10/17/14 02:46	135-98-8	
tert-Butylbenzene	ND mg/kg		0.0041	1		10/17/14 02:46	98-06-6	
Carbon disulfide	ND mg/kg		0.0082	1		10/17/14 02:46	75-15-0	
Carbon tetrachloride	ND mg/kg		0.0041	1		10/17/14 02:46	56-23-5	
Chlorobenzene	ND mg/kg		0.0041	1		10/17/14 02:46	108-90-7	
Chloroethane	ND mg/kg		0.0041	1		10/17/14 02:46	75-00-3	
Chloroform	ND mg/kg		0.0041	1		10/17/14 02:46	67-66-3	
Chloromethane	ND mg/kg		0.0041	1		10/17/14 02:46	74-87-3	
2-Chlorotoluene	ND mg/kg		0.0041	1		10/17/14 02:46	95-49-8	
4-Chlorotoluene	ND mg/kg		0.0041	1		10/17/14 02:46	106-43-4	
Dibromochloromethane	ND mg/kg		0.0041	1		10/17/14 02:46	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/kg		0.0041	1		10/17/14 02:46	106-93-4	
Dibromomethane	ND mg/kg		0.0041	1		10/17/14 02:46	74-95-3	
1,2-Dichlorobenzene	ND mg/kg		0.0041	1		10/17/14 02:46	95-50-1	
1,3-Dichlorobenzene	ND mg/kg		0.0041	1		10/17/14 02:46	541-73-1	
1,4-Dichlorobenzene	ND mg/kg		0.0041	1		10/17/14 02:46	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/kg		0.082	1		10/17/14 02:46	110-57-6	
Dichlorodifluoromethane	ND mg/kg		0.0041	1		10/17/14 02:46	75-71-8	
1,1-Dichloroethane	ND mg/kg		0.0041	1		10/17/14 02:46	75-34-3	
1,2-Dichloroethane	ND mg/kg		0.0041	1		10/17/14 02:46	107-06-2	
1,1-Dichloroethene	ND mg/kg		0.0041	1		10/17/14 02:46	75-35-4	
cis-1,2-Dichloroethene	ND mg/kg		0.0041	1		10/17/14 02:46	156-59-2	
trans-1,2-Dichloroethene	ND mg/kg		0.0041	1		10/17/14 02:46	156-60-5	
1,2-Dichloropropane	ND mg/kg		0.0041	1		10/17/14 02:46	78-87-5	
1,3-Dichloropropane	ND mg/kg		0.0041	1		10/17/14 02:46	142-28-9	
2,2-Dichloropropane	ND mg/kg		0.0041	1		10/17/14 02:46	594-20-7	
1,1-Dichloropropene	ND mg/kg		0.0041	1		10/17/14 02:46	563-58-6	
cis-1,3-Dichloropropene	ND mg/kg		0.0041	1		10/17/14 02:46	10061-01-5	
trans-1,3-Dichloropropene	ND mg/kg		0.0041	1		10/17/14 02:46	10061-02-6	
Ethylbenzene	ND mg/kg		0.0041	1		10/17/14 02:46	100-41-4	
Ethyl methacrylate	ND mg/kg		0.082	1		10/17/14 02:46	97-63-2	
Hexachloro-1,3-butadiene	ND mg/kg		0.0041	1		10/17/14 02:46	87-68-3	
n-Hexane	ND mg/kg		0.0041	1		10/17/14 02:46	110-54-3	
2-Hexanone	ND mg/kg		0.082	1		10/17/14 02:46	591-78-6	
Iodomethane	ND mg/kg		0.082	1		10/17/14 02:46	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-FD-100914-01 Lab ID: 50105130010 Collected: 10/09/14 00:00 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND mg/kg	U	0.0041	1		10/17/14 02:46	98-82-8	
p-Isopropyltoluene	ND mg/kg		0.0041	1		10/17/14 02:46	99-87-6	
Methylene Chloride	ND mg/kg		0.016	1		10/17/14 02:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/kg		0.020	1		10/17/14 02:46	108-10-1	
Methyl-tert-butyl ether	ND mg/kg		0.0041	1		10/17/14 02:46	1634-04-4	
Naphthalene	ND mg/kg		0.0041	1		10/17/14 02:46	91-20-3	
n-Propylbenzene	ND mg/kg		0.0041	1		10/17/14 02:46	103-65-1	
Styrene	ND mg/kg		0.0041	1		10/17/14 02:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/kg		0.0041	1		10/17/14 02:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/kg		0.0041	1		10/17/14 02:46	79-34-5	
Tetrachloroethene	ND mg/kg		0.0041	1		10/17/14 02:46	127-18-4	
Toluene	ND mg/kg		0.0041	1		10/17/14 02:46	108-88-3	
1,2,3-Trichlorobenzene	ND mg/kg		0.0041	1		10/17/14 02:46	87-61-6	
1,2,4-Trichlorobenzene	ND mg/kg		0.0041	1		10/17/14 02:46	120-82-1	
1,1,1-Trichloroethane	ND mg/kg		0.0041	1		10/17/14 02:46	71-55-6	
1,1,2-Trichloroethane	ND mg/kg	RU	0.0041	1		10/17/14 02:46	79-00-5	
Trichloroethene	ND mg/kg		0.0041	1		10/17/14 02:46	79-01-6	
Trichlorofluoromethane	ND mg/kg		0.0041	1		10/17/14 02:46	75-69-4	
1,2,3-Trichloropropane	ND mg/kg		0.0041	1		10/17/14 02:46	96-18-4	
1,2,4-Trimethylbenzene	ND mg/kg		0.0041	1		10/17/14 02:46	95-63-6	
1,3,5-Trimethylbenzene	ND mg/kg		0.0041	1		10/17/14 02:46	108-67-8	
Vinyl acetate	ND mg/kg		0.082	1		10/17/14 02:46	108-05-4	
Vinyl chloride	ND mg/kg		0.0041	1		10/17/14 02:46	75-01-4	
Xylene (Total)	ND mg/kg		0.0082	1		10/17/14 02:46	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95 %		85-118	1		10/17/14 02:46	1868-53-7	
Toluene-d8 (S)	98 %		71-128	1		10/17/14 02:46	2037-26-5	
4-Bromofluorobenzene (S)	91 %		56-144	1		10/17/14 02:46	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture 4.2 % 0.10 1 10/15/14 07:34

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-14-0204 Lab ID: 50105130007 Collected: 10/09/14 15:00 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.11	1		10/16/14 18:17	67-64-1	
Acrolein	ND	mg/kg	0.11	1		10/16/14 18:17	107-02-8	
Acrylonitrile	ND	mg/kg	0.11	1		10/16/14 18:17	107-13-1	
Benzene	ND	mg/kg	0.0053	1		10/16/14 18:17	71-43-2	
Bromobenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	108-86-1	
Bromochloromethane	ND	mg/kg	0.0053	1		10/16/14 18:17	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0053	1		10/16/14 18:17	75-27-4	
Bromoform	ND	mg/kg	0.0053	1		10/16/14 18:17	75-25-2	
Bromomethane	ND	mg/kg	0.0053	1		10/16/14 18:17	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.027	1		10/16/14 18:17	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	98-06-6	
Carbon disulfide	ND	mg/kg	0.011	1		10/16/14 18:17	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0053	1		10/16/14 18:17	56-23-5	
Chlorobenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	108-90-7	
Chloroethane	ND	mg/kg	0.0053	1		10/16/14 18:17	75-00-3	
Chloroform	ND	mg/kg	0.0053	1		10/16/14 18:17	67-66-3	
Chloromethane	ND	mg/kg	0.0053	1		10/16/14 18:17	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0053	1		10/16/14 18:17	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0053	1		10/16/14 18:17	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0053	1		10/16/14 18:17	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0053	1		10/16/14 18:17	106-93-4	
Dibromomethane	ND	mg/kg	0.0053	1		10/16/14 18:17	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.11	1		10/16/14 18:17	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0053	1		10/16/14 18:17	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0053	1		10/16/14 18:17	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0053	1		10/16/14 18:17	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0053	1		10/16/14 18:17	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0053	1		10/16/14 18:17	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0053	1		10/16/14 18:17	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0053	1		10/16/14 18:17	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0053	1		10/16/14 18:17	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0053	1		10/16/14 18:17	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0053	1		10/16/14 18:17	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0053	1		10/16/14 18:17	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0053	1		10/16/14 18:17	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0053	1		10/16/14 18:17	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.11	1		10/16/14 18:17	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0053	1		10/16/14 18:17	87-68-3	
n-Hexane	ND	mg/kg	0.0053	1		10/16/14 18:17	110-54-3	
2-Hexanone	ND	mg/kg	0.11	1		10/16/14 18:17	591-78-6	
Iodomethane	ND	mg/kg	0.11	1		10/16/14 18:17	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-14-0204 Lab ID: 50105130007 Collected: 10/09/14 15:00 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND mg/kg	Y	0.0053	1		10/16/14 18:17	98-82-8	
p-Isopropyltoluene	ND mg/kg		0.0053	1		10/16/14 18:17	99-87-6	
Methylene Chloride	ND mg/kg		0.021	1		10/16/14 18:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/kg		0.027	1		10/16/14 18:17	108-10-1	
Methyl-tert-butyl ether	ND mg/kg	UJ	0.0053	1		10/16/14 18:17	1634-04-4	
Naphthalene	ND mg/kg	UJ	0.0053	1		10/16/14 18:17	91-20-3	
n-Propylbenzene	ND mg/kg		0.0053	1		10/16/14 18:17	103-65-1	
Styrene	ND mg/kg		0.0053	1		10/16/14 18:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/kg		0.0053	1		10/16/14 18:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/kg		0.0053	1		10/16/14 18:17	79-34-5	
Tetrachloroethene	ND mg/kg		0.0053	1		10/16/14 18:17	127-18-4	
Toluene	ND mg/kg		0.0053	1		10/16/14 18:17	108-88-3	
1,2,3-Trichlorobenzene	ND mg/kg		0.0053	1		10/16/14 18:17	87-61-6	
1,2,4-Trichlorobenzene	ND mg/kg		0.0053	1		10/16/14 18:17	120-82-1	
1,1,1-Trichloroethane	ND mg/kg		0.0053	1		10/16/14 18:17	71-55-6	
1,1,2-Trichloroethane	ND mg/kg	R	0.0053	1		10/16/14 18:17	79-00-5	
Trichloroethene	ND mg/kg	U	0.0053	1		10/16/14 18:17	79-01-6	
Trichlorofluoromethane	ND mg/kg		0.0053	1		10/16/14 18:17	75-69-4	
1,2,3-Trichloropropane	ND mg/kg		0.0053	1		10/16/14 18:17	96-18-4	
1,2,4-Trimethylbenzene	ND mg/kg		0.0053	1		10/16/14 18:17	95-63-6	
1,3,5-Trimethylbenzene	ND mg/kg		0.0053	1		10/16/14 18:17	108-67-8	
Vinyl acetate	ND mg/kg		0.11	1		10/16/14 18:17	108-05-4	
Vinyl chloride	ND mg/kg		0.0053	1		10/16/14 18:17	75-01-4	
Xylene (Total)	ND mg/kg		0.011	1		10/16/14 18:17	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100 %		85-118	1		10/16/14 18:17	1868-53-7	
Toluene-d8 (S)	94 %		71-128	1		10/16/14 18:17	2037-26-5	
4-Bromofluorobenzene (S)	96 %		56-144	1		10/16/14 18:17	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	25.1 %	0.10	1	10/15/14 07:31
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-14-0810 Lab ID: 50105130008 Collected: 10/09/14 15:10 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Acetone	ND mg/kg	UJ	0.083	1		10/16/14 18:49	67-64-1	
Acrolein	ND mg/kg	UJ	0.083	1		10/16/14 18:49	107-02-8	
Acrylonitrile	ND mg/kg	UJ	0.083	1		10/16/14 18:49	107-13-1	
Benzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	71-43-2	
Bromobenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	108-86-1	
Bromochloromethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	74-97-5	
Bromodichloromethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	75-27-4	
Bromoform	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	75-25-2	
Bromomethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	74-83-9	
2-Butanone (MEK)	ND mg/kg	UJ	0.021	1		10/16/14 18:49	78-93-3	
n-Butylbenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	104-51-8	
sec-Butylbenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	135-98-8	
tert-Butylbenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	98-06-6	
Carbon disulfide	ND mg/kg	UJ	0.0083	1		10/16/14 18:49	75-15-0	
Carbon tetrachloride	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	56-23-5	
Chlorobenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	108-90-7	
Chloroethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	75-00-3	
Chloroform	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	67-66-3	
Chloromethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	74-87-3	
2-Chlorotoluene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	95-49-8	
4-Chlorotoluene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	106-43-4	
Dibromochloromethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	106-93-4	
Dibromomethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	74-95-3	
1,2-Dichlorobenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	95-50-1	
1,3-Dichlorobenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	541-73-1	
1,4-Dichlorobenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/kg	UJ	0.083	1		10/16/14 18:49	110-57-6	
Dichlorodifluoromethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	75-71-8	
1,1-Dichloroethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	75-34-3	
1,2-Dichloroethane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	107-06-2	
1,1-Dichloroethene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	75-35-4	
cis-1,2-Dichloroethene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	156-59-2	
trans-1,2-Dichloroethene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	156-60-5	
1,2-Dichloropropane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	78-87-5	
1,3-Dichloropropane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	142-28-9	
2,2-Dichloropropane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	594-20-7	
1,1-Dichloropropene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	563-58-6	
cis-1,3-Dichloropropene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	10061-01-5	
trans-1,3-Dichloropropene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	10061-02-6	
Ethylbenzene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	100-41-4	
Ethyl methacrylate	ND mg/kg	UJ	0.083	1		10/16/14 18:49	97-63-2	
Hexachloro-1,3-butadiene	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	87-68-3	
n-Hexane	ND mg/kg	UJ	0.0041	1		10/16/14 18:49	110-54-3	
2-Hexanone	ND mg/kg	UJ	0.083	1		10/16/14 18:49	591-78-6	
Iodomethane	ND mg/kg	UJ	0.083	1		10/16/14 18:49	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-14-0810 Lab ID: 50105130008 Collected: 10/09/14 15:10 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.0041	1		10/16/14 18:49	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0041	1		10/16/14 18:49	99-87-6	
Methylene Chloride	ND	mg/kg	0.017	1		10/16/14 18:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.021	1		10/16/14 18:49	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0041	1		10/16/14 18:49	1634-04-4	
Naphthalene	ND	mg/kg	0.0041	1		10/16/14 18:49	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0041	1		10/16/14 18:49	103-65-1	
Styrene	ND	mg/kg	0.0041	1		10/16/14 18:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0041	1		10/16/14 18:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0041	1		10/16/14 18:49	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0041	1		10/16/14 18:49	127-18-4	
Toluene	ND	mg/kg	0.0041	1		10/16/14 18:49	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0041	1		10/16/14 18:49	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0041	1		10/16/14 18:49	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0041	1		10/16/14 18:49	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0041	1		10/16/14 18:49	79-00-5	
Trichloroethene	ND	mg/kg	0.0041	1		10/16/14 18:49	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0041	1		10/16/14 18:49	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0041	1		10/16/14 18:49	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0041	1		10/16/14 18:49	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0041	1		10/16/14 18:49	108-67-8	
Vinyl acetate	ND	mg/kg	0.083	1		10/16/14 18:49	108-05-4	
Vinyl chloride	ND	mg/kg	0.0041	1		10/16/14 18:49	75-01-4	
Xylene (Total)	ND	mg/kg	0.0083	1		10/16/14 18:49	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97 %		85-118	1		10/16/14 18:49	1868-53-7	
Toluene-d8 (S)	96 %		71-128	1		10/16/14 18:49	2037-26-5	
4-Bromofluorobenzene (S)	94 %		56-144	1		10/16/14 18:49	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	3.9 %	0.10	1	10/15/14 07:34
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site

Pace Project No.: 50105130

Sample: SB-MW-EPA-14-1820 Lab ID: 50105130009 Collected: 10/09/14 16:00 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.080	1		10/17/14 02:14	67-64-1	
Acrolein	ND	mg/kg	0.080	1		10/17/14 02:14	107-02-8	
Acrylonitrile	ND	mg/kg	0.080	1		10/17/14 02:14	107-13-1	
Benzene	ND	mg/kg	0.0040	1		10/17/14 02:14	71-43-2	
Bromobenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	108-86-1	
Bromochloromethane	ND	mg/kg	0.0040	1		10/17/14 02:14	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0040	1		10/17/14 02:14	75-27-4	
Bromoform	ND	mg/kg	0.0040	1		10/17/14 02:14	75-25-2	
Bromomethane	ND	mg/kg	0.0040	1		10/17/14 02:14	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.020	1		10/17/14 02:14	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	98-06-6	
Carbon disulfide	ND	mg/kg	0.0080	1		10/17/14 02:14	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0040	1		10/17/14 02:14	56-23-5	
Chlorobenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	108-90-7	
Chloroethane	ND	mg/kg	0.0040	1		10/17/14 02:14	75-00-3	
Chloroform	ND	mg/kg	0.0040	1		10/17/14 02:14	67-66-3	
Chloromethane	ND	mg/kg	0.0040	1		10/17/14 02:14	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0040	1		10/17/14 02:14	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0040	1		10/17/14 02:14	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0040	1		10/17/14 02:14	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0040	1		10/17/14 02:14	106-93-4	
Dibromomethane	ND	mg/kg	0.0040	1		10/17/14 02:14	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.080	1		10/17/14 02:14	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0040	1		10/17/14 02:14	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0040	1		10/17/14 02:14	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0040	1		10/17/14 02:14	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0040	1		10/17/14 02:14	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0040	1		10/17/14 02:14	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0040	1		10/17/14 02:14	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0040	1		10/17/14 02:14	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0040	1		10/17/14 02:14	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0040	1		10/17/14 02:14	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0040	1		10/17/14 02:14	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0040	1		10/17/14 02:14	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0040	1		10/17/14 02:14	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.080	1		10/17/14 02:14	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0040	1		10/17/14 02:14	87-68-3	
n-Hexane	ND	mg/kg	0.0040	1		10/17/14 02:14	110-54-3	
2-Hexanone	ND	mg/kg	0.080	1		10/17/14 02:14	591-78-6	
Iodomethane	ND	mg/kg	0.080	1		10/17/14 02:14	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: SB-MW-EPA-14-1820 Lab ID: 50105130009 Collected: 10/09/14 16:00 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND	mg/kg	0.0040	1		10/17/14 02:14	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0040	1		10/17/14 02:14	99-87-6	
Methylene Chloride	ND	mg/kg	0.016	1		10/17/14 02:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.020	1		10/17/14 02:14	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0040	1		10/17/14 02:14	1634-04-4	
Naphthalene	ND	mg/kg	0.0040	1		10/17/14 02:14	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	103-65-1	
Styrene	ND	mg/kg	0.0040	1		10/17/14 02:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0040	1		10/17/14 02:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0040	1		10/17/14 02:14	79-34-5	
Tetrachloroethene	0.014	mg/kg	0.0040	1		10/17/14 02:14	127-18-4	
Toluene	ND	mg/kg	0.0040	1		10/17/14 02:14	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0040	1		10/17/14 02:14	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0040	1		10/17/14 02:14	79-00-5	
Trichloroethene	ND	mg/kg	0.0040	1		10/17/14 02:14	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0040	1		10/17/14 02:14	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0040	1		10/17/14 02:14	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0040	1		10/17/14 02:14	108-67-8	
Vinyl acetate	ND	mg/kg	0.080	1		10/17/14 02:14	108-05-4	
Vinyl chloride	ND	mg/kg	0.0040	1		10/17/14 02:14	75-01-4	
Xylene (Total)	ND	mg/kg	0.0080	1		10/17/14 02:14	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	95 %		85-118	1		10/17/14 02:14	1868-53-7	
Toluene-d8 (S)	95 %		71-128	1		10/17/14 02:14	2037-26-5	
4-Bromofluorobenzene (S)	96 %		56-144	1		10/17/14 02:14	460-00-4	

Percent Moisture

Analytical Method: ASTM D2974-87

Percent Moisture	5.0 %	0.10	1	10/15/14 07:34
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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: RB-100914-01 Lab ID: 50105130006 Collected: 10/09/14 14:08 Received: 10/10/14 10:04 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	U	0.10	1		10/16/14 04:09	67-64-1	
Acrolein	ND mg/L		0.050	1		10/16/14 04:09	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/16/14 04:09	107-13-1	
Benzene	ND mg/L		0.0050	1		10/16/14 04:09	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/16/14 04:09	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/16/14 04:09	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/16/14 04:09	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/16/14 04:09	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/16/14 04:09	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/16/14 04:09	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/16/14 04:09	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/16/14 04:09	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/16/14 04:09	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/16/14 04:09	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/16/14 04:09	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/16/14 04:09	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/16/14 04:09	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/16/14 04:09	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/16/14 04:09	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/16/14 04:09	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/16/14 04:09	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/16/14 04:09	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/16/14 04:09	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/16/14 04:09	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/16/14 04:09	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/16/14 04:09	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/16/14 04:09	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/16/14 04:09	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/16/14 04:09	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/16/14 04:09	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/16/14 04:09	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/16/14 04:09	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/16/14 04:09	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/16/14 04:09	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/16/14 04:09	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/16/14 04:09	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/16/14 04:09	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/16/14 04:09	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/16/14 04:09	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/16/14 04:09	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/16/14 04:09	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/16/14 04:09	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/16/14 04:09	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/16/14 04:09	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/16/14 04:09	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/16/14 04:09	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/16/14 04:09	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: RB-100914-01 Lab ID: 50105130006 Collected: 10/09/14 14:08 Received: 10/10/14 10:04 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/16/14 04:09	99-87-6	
Methylene Chloride	ND mg/L	U	0.0050	1		10/16/14 04:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.025	1		10/16/14 04:09	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.0040	1		10/16/14 04:09	1634-04-4	
Naphthalene	ND mg/L	U	0.0050	1		10/16/14 04:09	91-20-3	
n-Propylbenzene	ND mg/L	U	0.0050	1		10/16/14 04:09	103-65-1	
Styrene	ND mg/L	U	0.0050	1		10/16/14 04:09	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/16/14 04:09	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/16/14 04:09	79-34-5	
Tetrachloroethene	ND mg/L	U	0.0050	1		10/16/14 04:09	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/16/14 04:09	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.0050	1		10/16/14 04:09	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.0050	1		10/16/14 04:09	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.0050	1		10/16/14 04:09	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.0050	1		10/16/14 04:09	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/16/14 04:09	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.0050	1		10/16/14 04:09	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.0050	1		10/16/14 04:09	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.0050	1		10/16/14 04:09	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.0050	1		10/16/14 04:09	108-67-8	
Vinyl acetate	ND mg/L	U	0.050	1		10/16/14 04:09	108-05-4	
Vinyl chloride	ND mg/L	U	0.0020	1		10/16/14 04:09	75-01-4	
Xylene (Total)	ND mg/L	U	0.010	1		10/16/14 04:09	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	92 %		79-116	1		10/16/14 04:09	1868-53-7	
4-Bromofluorobenzene (S)	98 %		80-114	1		10/16/14 04:09	460-00-4	
Toluene-d8 (S)	95 %		81-110	1		10/16/14 04:09	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: TB-100914-01 Lab ID: 50105130001 Collected: 10/09/14 07:00 Received: 10/10/14 10:04 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Acetone	ND	mg/kg	0.10	1		10/16/14 16:41	67-64-1	
Acrolein	ND	mg/kg	0.10	1		10/16/14 16:41	107-02-8	
Acrylonitrile	ND	mg/kg	0.10	1		10/16/14 16:41	107-13-1	
Benzene	ND	mg/kg	0.0050	1		10/16/14 16:41	71-43-2	
Bromobenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	108-86-1	
Bromochloromethane	ND	mg/kg	0.0050	1		10/16/14 16:41	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0050	1		10/16/14 16:41	75-27-4	
Bromoform	ND	mg/kg	0.0050	1		10/16/14 16:41	75-25-2	
Bromomethane	ND	mg/kg	0.0050	1		10/16/14 16:41	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.025	1		10/16/14 16:41	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	98-06-6	
Carbon disulfide	ND	mg/kg	0.010	1		10/16/14 16:41	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0050	1		10/16/14 16:41	56-23-5	
Chlorobenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	108-90-7	
Chloroethane	ND	mg/kg	0.0050	1		10/16/14 16:41	75-00-3	
Chloroform	ND	mg/kg	0.0050	1		10/16/14 16:41	67-66-3	
Chloromethane	ND	mg/kg	0.0050	1		10/16/14 16:41	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0050	1		10/16/14 16:41	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0050	1		10/16/14 16:41	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0050	1		10/16/14 16:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0050	1		10/16/14 16:41	106-93-4	
Dibromomethane	ND	mg/kg	0.0050	1		10/16/14 16:41	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.10	1		10/16/14 16:41	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0050	1		10/16/14 16:41	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0050	1		10/16/14 16:41	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0050	1		10/16/14 16:41	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0050	1		10/16/14 16:41	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0050	1		10/16/14 16:41	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		10/16/14 16:41	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0050	1		10/16/14 16:41	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0050	1		10/16/14 16:41	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0050	1		10/16/14 16:41	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0050	1		10/16/14 16:41	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0050	1		10/16/14 16:41	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		10/16/14 16:41	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0050	1		10/16/14 16:41	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.10	1		10/16/14 16:41	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0050	1		10/16/14 16:41	87-68-3	
n-Hexane	ND	mg/kg	0.0050	1		10/16/14 16:41	110-54-3	
2-Hexanone	ND	mg/kg	0.10	1		10/16/14 16:41	591-78-6	
Iodomethane	ND	mg/kg	0.10	1		10/16/14 16:41	74-88-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: TB-100914-01 **Lab ID:** 50105130001 **Collected:** 10/09/14 07:00 **Received:** 10/10/14 10:04 **Matrix:** Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA								
Analytical Method: EPA 8260								
Isopropylbenzene (Cumene)	ND mg/kg	U	0.0050	1		10/16/14 16:41	98-82-8	
p-Isopropyltoluene	ND mg/kg		0.0050	1		10/16/14 16:41	99-87-6	
Methylene Chloride	ND mg/kg		0.020	1		10/16/14 16:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/kg		0.025	1		10/16/14 16:41	108-10-1	
Methyl-tert-butyl ether	ND mg/kg	U	0.0050	1		10/16/14 16:41	1634-04-4	
Naphthalene	ND mg/kg	U	0.0050	1		10/16/14 16:41	91-20-3	
n-Propylbenzene	ND mg/kg		0.0050	1		10/16/14 16:41	103-65-1	
Styrene	ND mg/kg		0.0050	1		10/16/14 16:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/kg		0.0050	1		10/16/14 16:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/kg		0.0050	1		10/16/14 16:41	79-34-5	
Tetrachloroethene	ND mg/kg		0.0050	1		10/16/14 16:41	127-18-4	
Toluene	ND mg/kg		0.0050	1		10/16/14 16:41	108-88-3	
1,2,3-Trichlorobenzene	ND mg/kg		0.0050	1		10/16/14 16:41	87-61-6	
1,2,4-Trichlorobenzene	ND mg/kg		0.0050	1		10/16/14 16:41	120-82-1	
1,1,1-Trichloroethane	ND mg/kg		0.0050	1		10/16/14 16:41	71-55-6	
1,1,2-Trichloroethane	ND mg/kg	R	0.0050	1		10/16/14 16:41	79-00-5	
Trichloroethene	ND mg/kg	U	0.0050	1		10/16/14 16:41	79-01-6	
Trichlorofluoromethane	ND mg/kg		0.0050	1		10/16/14 16:41	75-69-4	
1,2,3-Trichloropropane	ND mg/kg		0.0050	1		10/16/14 16:41	96-18-4	
1,2,4-Trimethylbenzene	ND mg/kg		0.0050	1		10/16/14 16:41	95-63-6	
1,3,5-Trimethylbenzene	ND mg/kg		0.0050	1		10/16/14 16:41	108-67-8	
Vinyl acetate	ND mg/kg		0.10	1		10/16/14 16:41	108-05-4	
Vinyl chloride	ND mg/kg		0.0050	1		10/16/14 16:41	75-01-4	
Xylene (Total)	ND mg/kg		0.010	1		10/16/14 16:41	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	94 %		85-118	1		10/16/14 16:41	1868-53-7	
Toluene-d8 (S)	95 %		71-128	1		10/16/14 16:41	2037-26-5	
4-Bromofluorobenzene (S)	97 %		56-144	1		10/16/14 16:41	460-00-4	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: TB-100914-02 Lab ID: 50105130002 Collected: 10/09/14 07:05 Received: 10/10/14 10:04 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.10	1		10/16/14 03:38	67-64-1	
Acrolein	ND	mg/L	0.050	1		10/16/14 03:38	107-02-8	
Acrylonitrile	ND	mg/L	0.10	1		10/16/14 03:38	107-13-1	
Benzene	ND	mg/L	0.0050	1		10/16/14 03:38	71-43-2	
Bromobenzene	ND	mg/L	0.0050	1		10/16/14 03:38	108-86-1	
Bromochloromethane	ND	mg/L	0.0050	1		10/16/14 03:38	74-97-5	
Bromodichloromethane	ND	mg/L	0.0050	1		10/16/14 03:38	75-27-4	
Bromoform	ND	mg/L	0.0050	1		10/16/14 03:38	75-25-2	
Bromomethane	ND	mg/L	0.0050	1		10/16/14 03:38	74-83-9	
2-Butanone (MEK)	ND	mg/L	0.025	1		10/16/14 03:38	78-93-3	
n-Butylbenzene	ND	mg/L	0.0050	1		10/16/14 03:38	104-51-8	
sec-Butylbenzene	ND	mg/L	0.0050	1		10/16/14 03:38	135-98-8	
tert-Butylbenzene	ND	mg/L	0.0050	1		10/16/14 03:38	98-06-6	
Carbon disulfide	ND	mg/L	0.010	1		10/16/14 03:38	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0050	1		10/16/14 03:38	56-23-5	
Chlorobenzene	ND	mg/L	0.0050	1		10/16/14 03:38	108-90-7	
Chloroethane	ND	mg/L	0.0050	1		10/16/14 03:38	75-00-3	
Chloroform	ND	mg/L	0.0050	1		10/16/14 03:38	67-66-3	
Chloromethane	ND	mg/L	0.0050	1		10/16/14 03:38	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0050	1		10/16/14 03:38	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0050	1		10/16/14 03:38	106-43-4	
Dibromochloromethane	ND	mg/L	0.0050	1		10/16/14 03:38	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0050	1		10/16/14 03:38	106-93-4	
Dibromomethane	ND	mg/L	0.0050	1		10/16/14 03:38	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0050	1		10/16/14 03:38	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0050	1		10/16/14 03:38	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0050	1		10/16/14 03:38	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.10	1		10/16/14 03:38	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0050	1		10/16/14 03:38	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0050	1		10/16/14 03:38	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0050	1		10/16/14 03:38	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0050	1		10/16/14 03:38	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/16/14 03:38	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/16/14 03:38	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0050	1		10/16/14 03:38	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0050	1		10/16/14 03:38	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0050	1		10/16/14 03:38	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0050	1		10/16/14 03:38	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/16/14 03:38	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/16/14 03:38	10061-02-6	
Ethylbenzene	ND	mg/L	0.0050	1		10/16/14 03:38	100-41-4	
Ethyl methacrylate	ND	mg/L	0.10	1		10/16/14 03:38	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/L	0.0050	1		10/16/14 03:38	87-68-3	
n-Hexane	ND	mg/L	0.0050	1		10/16/14 03:38	110-54-3	
2-Hexanone	ND	mg/L	0.025	1		10/16/14 03:38	591-78-6	
Iodomethane	ND	mg/L	0.010	1		10/16/14 03:38	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/L	0.0050	1		10/16/14 03:38	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site
Pace Project No.: 50105130

Sample: TB-100914-02		Lab ID: 50105130002	Collected: 10/09/14 07:05	Received: 10/10/14 10:04	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/16/14 03:38	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/16/14 03:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/16/14 03:38	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/16/14 03:38	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/16/14 03:38	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/16/14 03:38	103-65-1	
Styrene	ND mg/L		0.0050	1		10/16/14 03:38	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/16/14 03:38	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/16/14 03:38	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/16/14 03:38	127-18-4	
Toluene	ND mg/L		0.0050	1		10/16/14 03:38	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/16/14 03:38	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/16/14 03:38	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/16/14 03:38	71-55-6	
1,1,2-Trichloroethane	ND mg/L	R	0.0050	1		10/16/14 03:38	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/16/14 03:38	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/16/14 03:38	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/16/14 03:38	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/16/14 03:38	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/16/14 03:38	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/16/14 03:38	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/16/14 03:38	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/16/14 03:38	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	90 %		79-116	1		10/16/14 03:38	1868-53-7	
4-Bromofluorobenzene (S)	98 %		80-114	1		10/16/14 03:38	460-00-4	
Toluene-d8 (S)	95 %		81-110	1		10/16/14 03:38	2037-26-5	

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DATA VALIDATION CHECKLIST – STAGE 4

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Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/22/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	50105209	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – SW-846 Method 8260B		
Samples	GW-SB-MW-EPA-7-101014		
Field Blanks	TB-101014-01		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
X	

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Initial Calibration:

Within Criteria	Exceedance/Notes
X	

Continuing Calibration:

Within Criteria	Exceedance/Notes
	%D exceeded criteria for bromomethane – flag “UJ”

Calibration Verification:

Within Criteria	Exceedance/Notes
	%D exceeded criteria for acrolein; bromomethane; and iodomethane – flag “UJ”

Method blanks:

Within Criteria	Exceedance/Notes
X	

Field blanks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
X	

MS/MSD:

Within Criteria	Exceedance/Notes
	None for this data package

Field duplicates:

Within Criteria	Exceedance/Notes
	None for this data package

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
	high %R for bromomethane – no action (associated results non-detect)

Sample dilutions:

Within Criteria	Exceedance/Notes
	None required



DATA VALIDATION CHECKLIST – STAGE 4

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Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None required

Internal Standards:

Within Criteria	Exceedance/Notes
X	

Target analyte identification:

Within Criteria	Exceedance/Notes
X	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action

System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105209

Sample: **GW-SB-MW-EPA-7-101014** Lab ID: **50105209002** Collected: 10/10/14 10:20 Received: 10/11/14 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	u	0.10	1		10/16/14 22:14	67-64-1	
Acrolein	ND mg/L	u	0.050	1		10/16/14 22:14	107-02-8	
Acrylonitrile	ND mg/L	u	0.10	1		10/16/14 22:14	107-13-1	
Benzene	ND mg/L	u	0.0050	1		10/16/14 22:14	71-43-2	
Bromobenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	108-86-1	
Bromochloromethane	ND mg/L	u	0.0050	1		10/16/14 22:14	74-97-5	
Bromodichloromethane	ND mg/L	u	0.0050	1		10/16/14 22:14	75-27-4	
Bromoform	ND mg/L	u	0.0050	1		10/16/14 22:14	75-25-2	
Bromomethane	ND mg/L	u	0.0050	1		10/16/14 22:14	74-83-9	
2-Butanone (MEK)	ND mg/L	u	0.025	1		10/16/14 22:14	78-93-3	
n-Butylbenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	104-51-8	
sec-Butylbenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	135-98-8	
tert-Butylbenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	98-06-6	
Carbon disulfide	ND mg/L	u	0.010	1		10/16/14 22:14	75-15-0	
Carbon tetrachloride	ND mg/L	u	0.0050	1		10/16/14 22:14	56-23-5	
Chlorobenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	108-90-7	
Chloroethane	ND mg/L	u	0.0050	1		10/16/14 22:14	75-00-3	
Chloroform	ND mg/L	u	0.0050	1		10/16/14 22:14	67-66-3	
Chloromethane	ND mg/L	u	0.0050	1		10/16/14 22:14	74-87-3	
2-Chlorotoluene	ND mg/L	u	0.0050	1		10/16/14 22:14	95-49-8	
4-Chlorotoluene	ND mg/L	u	0.0050	1		10/16/14 22:14	106-43-4	
Dibromochloromethane	ND mg/L	u	0.0050	1		10/16/14 22:14	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L	u	0.0050	1		10/16/14 22:14	106-93-4	
Dibromomethane	ND mg/L	u	0.0050	1		10/16/14 22:14	74-95-3	
1,2-Dichlorobenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	95-50-1	
1,3-Dichlorobenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	541-73-1	
1,4-Dichlorobenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	u	0.10	1		10/16/14 22:14	110-57-6	
Dichlorodifluoromethane	ND mg/L	u	0.0050	1		10/16/14 22:14	75-71-8	
1,1-Dichloroethane	ND mg/L	u	0.0050	1		10/16/14 22:14	75-34-3	
1,2-Dichloroethane	ND mg/L	u	0.0050	1		10/16/14 22:14	107-06-2	
1,1-Dichloroethene	ND mg/L	u	0.0050	1		10/16/14 22:14	75-35-4	
cis-1,2-Dichloroethene	ND mg/L	u	0.0050	1		10/16/14 22:14	156-59-2	
trans-1,2-Dichloroethene	ND mg/L	u	0.0050	1		10/16/14 22:14	156-60-5	
1,2-Dichloropropane	ND mg/L	u	0.0050	1		10/16/14 22:14	78-87-5	
1,3-Dichloropropane	ND mg/L	u	0.0050	1		10/16/14 22:14	142-28-9	
2,2-Dichloropropane	ND mg/L	u	0.0050	1		10/16/14 22:14	594-20-7	
1,1-Dichloropropene	ND mg/L	u	0.0050	1		10/16/14 22:14	563-58-6	
cis-1,3-Dichloropropene	ND mg/L	u	0.0050	1		10/16/14 22:14	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L	u	0.0050	1		10/16/14 22:14	10061-02-6	
Ethylbenzene	ND mg/L	u	0.0050	1		10/16/14 22:14	100-41-4	
Ethyl methacrylate	ND mg/L	u	0.10	1		10/16/14 22:14	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	u	0.0050	1		10/16/14 22:14	87-68-3	
n-Hexane	ND mg/L	u	0.0050	1		10/16/14 22:14	110-54-3	
2-Hexanone	ND mg/L	u	0.025	1		10/16/14 22:14	591-78-6	
Iodomethane	ND mg/L	u	0.010	1		10/16/14 22:14	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L	u	0.0050	1		10/16/14 22:14	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105209

Sample: **GW-SB-MW-EPA-7-101014** Lab ID: **50105209002** Collected: 10/10/14 10:20 Received: 10/11/14 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND	mg/L	0.0050	1		10/16/14 22:14	99-87-6	
Methylene Chloride	ND	mg/L	0.0050	1		10/16/14 22:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.025	1		10/16/14 22:14	108-10-1	
Methyl-tert-butyl ether	ND	mg/L	0.0040	1		10/16/14 22:14	1634-04-4	
Naphthalene	ND	mg/L	0.0050	1		10/16/14 22:14	91-20-3	
n-Propylbenzene	ND	mg/L	0.0050	1		10/16/14 22:14	103-65-1	
Styrene	ND	mg/L	0.0050	1		10/16/14 22:14	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0050	1		10/16/14 22:14	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0050	1		10/16/14 22:14	79-34-5	
Tetrachloroethene	ND	mg/L	0.0050	1		10/16/14 22:14	127-18-4	
Toluene	ND	mg/L	0.0050	1		10/16/14 22:14	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/L	0.0050	1		10/16/14 22:14	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/L	0.0050	1		10/16/14 22:14	120-82-1	
1,1,1-Trichloroethane	ND	mg/L	0.0050	1		10/16/14 22:14	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0050	1		10/16/14 22:14	79-00-5	
Trichloroethene	ND	mg/L	0.0050	1		10/16/14 22:14	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0050	1		10/16/14 22:14	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0050	1		10/16/14 22:14	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/L	0.0050	1		10/16/14 22:14	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/L	0.0050	1		10/16/14 22:14	108-67-8	
Vinyl acetate	ND	mg/L	0.050	1		10/16/14 22:14	108-05-4	
Vinyl chloride	ND	mg/L	0.0020	1		10/16/14 22:14	75-01-4	
Xylene (Total)	ND	mg/L	0.010	1		10/16/14 22:14	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102 %		79-116	1		10/16/14 22:14	1868-53-7	
4-Bromofluorobenzene (S)	94 %		80-114	1		10/16/14 22:14	460-00-4	
Toluene-d8 (S)	100 %		81-110	1		10/16/14 22:14	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105209

Sample: TB-101014-01		Lab ID: 50105209001	Collected: 10/10/14 07:00	Received: 10/11/14 08:52	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	UJ	0.10	1		10/16/14 21:41	67-64-1	
Acrolein	ND mg/L	UJ	0.050	1		10/16/14 21:41	107-02-8	
Acrylonitrile	ND mg/L	UJ	0.10	1		10/16/14 21:41	107-13-1	
Benzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	71-43-2	
Bromobenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	108-86-1	
Bromochloromethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	74-97-5	
Bromodichloromethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	75-27-4	
Bromoform	ND mg/L	UJ	0.0050	1		10/16/14 21:41	75-25-2	
Bromomethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	74-83-9	
2-Butanone (MEK)	ND mg/L	UJ	0.025	1		10/16/14 21:41	78-93-3	
n-Butylbenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	104-51-8	
sec-Butylbenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	135-98-8	
tert-Butylbenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	98-06-6	
Carbon disulfide	ND mg/L	UJ	0.010	1		10/16/14 21:41	75-15-0	
Carbon tetrachloride	ND mg/L	UJ	0.0050	1		10/16/14 21:41	56-23-5	
Chlorobenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	108-90-7	
Chloroethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	75-00-3	
Chloroform	ND mg/L	UJ	0.0050	1		10/16/14 21:41	67-66-3	
Chloromethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	74-87-3	
2-Chlorotoluene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	95-49-8	
4-Chlorotoluene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	106-43-4	
Dibromochloromethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L	UJ	0.0050	1		10/16/14 21:41	106-93-4	
Dibromomethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	74-95-3	
1,2-Dichlorobenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	95-50-1	
1,3-Dichlorobenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	541-73-1	
1,4-Dichlorobenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	UJ	0.10	1		10/16/14 21:41	110-57-6	
Dichlorodifluoromethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	75-71-8	
1,1-Dichloroethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	75-34-3	
1,2-Dichloroethane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	107-06-2	
1,1-Dichloroethene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	75-35-4	
cis-1,2-Dichloroethene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	156-59-2	
trans-1,2-Dichloroethene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	156-60-5	
1,2-Dichloropropane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	78-87-5	
1,3-Dichloropropane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	142-28-9	
2,2-Dichloropropane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	594-20-7	
1,1-Dichloropropene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	563-58-6	
cis-1,3-Dichloropropene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	10061-02-6	
Ethylbenzene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	100-41-4	
Ethyl methacrylate	ND mg/L	UJ	0.10	1		10/16/14 21:41	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	UJ	0.0050	1		10/16/14 21:41	87-68-3	
n-Hexane	ND mg/L	UJ	0.0050	1		10/16/14 21:41	110-54-3	
2-Hexanone	ND mg/L	UJ	0.025	1		10/16/14 21:41	591-78-6	
Iodomethane	ND mg/L	UJ	0.010	1		10/16/14 21:41	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L	UJ	0.0050	1		10/16/14 21:41	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105209

Sample: TB-101014-01	Lab ID: 50105209001	Collected: 10/10/14 07:00	Received: 10/11/14 08:52	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L		0.0050	1		10/16/14 21:41	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/16/14 21:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/16/14 21:41	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/16/14 21:41	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/16/14 21:41	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/16/14 21:41	103-65-1	
Styrene	ND mg/L		0.0050	1		10/16/14 21:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/16/14 21:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/16/14 21:41	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/16/14 21:41	127-18-4	
Toluene	ND mg/L		0.0050	1		10/16/14 21:41	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/16/14 21:41	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/16/14 21:41	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/16/14 21:41	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/16/14 21:41	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/16/14 21:41	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/16/14 21:41	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/16/14 21:41	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/16/14 21:41	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/16/14 21:41	108-67-8	
Vinyl acetate	ND mg/L	0.050	1		10/16/14 21:41	108-05-4		
Vinyl chloride	ND mg/L	0.0020	1		10/16/14 21:41	75-01-4		
Xylene (Total)	ND mg/L	0.010	1		10/16/14 21:41	1330-20-7		
Surrogates								
Dibromofluoromethane (S)	102 %.		79-116	1		10/16/14 21:41	1868-53-7	
4-Bromofluorobenzene (S)	96 %.		80-114	1		10/16/14 21:41	460-00-4	
Toluene-d8 (S)	99 %.		81-110	1		10/16/14 21:41	2037-26-5	

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DATA VALIDATION CHECKLIST – STAGE 4

(Page 1 of 5)

Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/22/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	50105286	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – SW-846 Method 8260B		
Samples	GW-MW-EPA-10-101314 and GW-MW-EPA-11-101314		
Field Duplicates	GW-MW-EPA-10-101314/GW-FD-101314-01 and GW-MW-EPA-11-101314/GW-FD-101314-02		
Field Blanks	TB-101314-01		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
	Cooler received at 0.5 degrees Celsius – no action (samples received intact and not frozen)

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 2 of 5)

Initial Calibration:

Within Criteria	Exceedance/Notes
X	

Continuing Calibration:

Within Criteria	Exceedance/Notes
	10/18/2014 (09:53): %D exceeded criteria for bromomethane – flag “UJ” for GW-MW-EPA-10-101314 and TB-101314-01 10/20/2014 (22:05): %D exceeded criteria for bromomethane; carbon tetrachloride; dibromochloromethane; cis-1,3-dichloropropene; and styrene – flag “UJ” for GW-MW-EPA-11-101314, GW-FD-101314-01, and GW-FD-101314-02

Calibration Verification:

Within Criteria	Exceedance/Notes
	10/15/2014 (21:39): %D exceeded criteria for acrolein; bromomethane; and iodomethane – flag “UJ” for GW-MW-EPA-10-101314 and TB-101314-01 10/20/2014 (20:27): %D exceeded criteria for acrolein; bromodichloromethane; bromomethane; carbon tetrachloride; dibromochloromethane; trans-1,4-dichloro-2-butene; cis-1,3-dichloropropene; ethyl methacrylate; styrene; and vinyl chloride – flag “UJ” for GW-MW-EPA-11-101314, GW-FD-101314-01, and GW-FD-101314-02

Method blanks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Field blanks:

Within Criteria	Exceedance/Notes
X	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
X	

MS/MSD:

Within Criteria	Exceedance/Notes
	Performed on sample from another site – not evaluated

Field duplicates:

Within Criteria	Exceedance/Notes
X	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
	low %R for 2,2-dichloropropane – flag “UJ” for GW-MW-EPA-10-101314 and TB-101314-01 high %R for bromomethane and vinyl chloride– no action (associated results non-detect)



DATA VALIDATION CHECKLIST – STAGE 4

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Sample dilutions:

Within Criteria	Exceedance/Notes
	None required

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None required

Internal Standards:

Within Criteria	Exceedance/Notes
X	

Target analyte identification:

Within Criteria	Exceedance/Notes
X	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action



DATA VALIDATION CHECKLIST – STAGE 4

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System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: **GW-MW-EPA-10-101314** Lab ID: **50105286002** Collected: 10/13/14 16:00 Received: 10/14/14 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.10	1		10/18/14 19:30	67-64-1	
Acrolein	ND	mg/L	0.050	1		10/18/14 19:30	107-02-8	
Acrylonitrile	ND	mg/L	0.10	1		10/18/14 19:30	107-13-1	
Benzene	ND	mg/L	0.0050	1		10/18/14 19:30	71-43-2	
Bromobenzene	ND	mg/L	0.0050	1		10/18/14 19:30	108-86-1	
Bromochloromethane	ND	mg/L	0.0050	1		10/18/14 19:30	74-97-5	
Bromodichloromethane	ND	mg/L	0.0050	1		10/18/14 19:30	75-27-4	
Bromoform	ND	mg/L	0.0050	1		10/18/14 19:30	75-25-2	
Bromomethane	ND	mg/L	0.0050	1		10/18/14 19:30	74-83-9	
2-Butanone (MEK)	ND	mg/L	0.025	1		10/18/14 19:30	78-93-3	
n-Butylbenzene	ND	mg/L	0.0050	1		10/18/14 19:30	104-51-8	
sec-Butylbenzene	ND	mg/L	0.0050	1		10/18/14 19:30	135-98-8	
tert-Butylbenzene	ND	mg/L	0.0050	1		10/18/14 19:30	98-06-6	
Carbon disulfide	ND	mg/L	0.010	1		10/18/14 19:30	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0050	1		10/18/14 19:30	56-23-5	
Chlorobenzene	ND	mg/L	0.0050	1		10/18/14 19:30	108-90-7	
Chloroethane	ND	mg/L	0.0050	1		10/18/14 19:30	75-00-3	
Chloroform	ND	mg/L	0.0050	1		10/18/14 19:30	67-66-3	
Chloromethane	ND	mg/L	0.0050	1		10/18/14 19:30	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0050	1		10/18/14 19:30	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0050	1		10/18/14 19:30	106-43-4	
Dibromochloromethane	ND	mg/L	0.0050	1		10/18/14 19:30	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0050	1		10/18/14 19:30	106-93-4	
Dibromomethane	ND	mg/L	0.0050	1		10/18/14 19:30	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0050	1		10/18/14 19:30	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0050	1		10/18/14 19:30	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0050	1		10/18/14 19:30	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.10	1		10/18/14 19:30	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0050	1		10/18/14 19:30	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0050	1		10/18/14 19:30	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0050	1		10/18/14 19:30	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0050	1		10/18/14 19:30	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/18/14 19:30	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/18/14 19:30	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0050	1		10/18/14 19:30	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0050	1		10/18/14 19:30	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0050	1		10/18/14 19:30	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0050	1		10/18/14 19:30	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/18/14 19:30	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/18/14 19:30	10061-02-6	
Ethylbenzene	ND	mg/L	0.0050	1		10/18/14 19:30	100-41-4	
Ethyl methacrylate	ND	mg/L	0.10	1		10/18/14 19:30	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/L	0.0050	1		10/18/14 19:30	87-68-3	
n-Hexane	ND	mg/L	0.0050	1		10/18/14 19:30	110-54-3	
2-Hexanone	ND	mg/L	0.025	1		10/18/14 19:30	591-78-6	
Iodomethane	ND	mg/L	0.010	1		10/18/14 19:30	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/L	0.0050	1		10/18/14 19:30	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: **GW-MW-EPA-10-101314** Lab ID: **50105286002** Collected: 10/13/14 16:00 Received: 10/14/14 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/18/14 19:30	99-87-6	
Methylene Chloride	ND mg/L	U	0.0050	1		10/18/14 19:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.025	1		10/18/14 19:30	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.0040	1		10/18/14 19:30	1634-04-4	
Naphthalene	ND mg/L	U	0.0050	1		10/18/14 19:30	91-20-3	
n-Propylbenzene	ND mg/L	U	0.0050	1		10/18/14 19:30	103-65-1	
Styrene	ND mg/L	U	0.0050	1		10/18/14 19:30	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/18/14 19:30	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/18/14 19:30	79-34-5	
Tetrachloroethene	0.034 mg/L	U	0.0050	1		10/18/14 19:30	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/18/14 19:30	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.0050	1		10/18/14 19:30	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.0050	1		10/18/14 19:30	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.0050	1		10/18/14 19:30	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.0050	1		10/18/14 19:30	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/18/14 19:30	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.0050	1		10/18/14 19:30	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.0050	1		10/18/14 19:30	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.0050	1		10/18/14 19:30	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.0050	1		10/18/14 19:30	108-67-8	
Vinyl acetate	ND mg/L	U	0.050	1		10/18/14 19:30	108-05-4	
Vinyl chloride	ND mg/L	U	0.0020	1		10/18/14 19:30	75-01-4	
Xylene (Total)	ND mg/L	U	0.010	1		10/18/14 19:30	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	105 %		79-116	1		10/18/14 19:30	1868-53-7	
4-Bromofluorobenzene (S)	92 %		80-114	1		10/18/14 19:30	460-00-4	
Toluene-d8 (S)	98 %		81-110	1		10/18/14 19:30	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: **GW-FD-101314-01** Lab ID: **50105286004** Collected: 10/13/14 08:00 Received: 10/14/14 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND	mg/L	0.10	1		10/21/14 08:22	67-64-1	
Acrolein	ND	mg/L	0.050	1		10/21/14 08:22	107-02-8	
Acrylonitrile	ND	mg/L	0.10	1		10/21/14 08:22	107-13-1	
Benzene	ND	mg/L	0.0050	1		10/21/14 08:22	71-43-2	
Bromobenzene	ND	mg/L	0.0050	1		10/21/14 08:22	108-86-1	
Bromochloromethane	ND	mg/L	0.0050	1		10/21/14 08:22	74-97-5	
Bromodichloromethane	ND	mg/L	0.0050	1		10/21/14 08:22	75-27-4	
Bromoform	ND	mg/L	0.0050	1		10/21/14 08:22	75-25-2	
Bromomethane	ND	mg/L	0.0050	1		10/21/14 08:22	74-83-9	
2-Butanone (MEK)	ND	mg/L	0.025	1		10/21/14 08:22	78-93-3	
n-Butylbenzene	ND	mg/L	0.0050	1		10/21/14 08:22	104-51-8	
sec-Butylbenzene	ND	mg/L	0.0050	1		10/21/14 08:22	135-98-8	
tert-Butylbenzene	ND	mg/L	0.0050	1		10/21/14 08:22	98-06-6	
Carbon disulfide	ND	mg/L	0.010	1		10/21/14 08:22	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0050	1		10/21/14 08:22	56-23-5	
Chlorobenzene	ND	mg/L	0.0050	1		10/21/14 08:22	108-90-7	
Chloroethane	ND	mg/L	0.0050	1		10/21/14 08:22	75-00-3	
Chloroform	ND	mg/L	0.0050	1		10/21/14 08:22	67-66-3	
Chloromethane	ND	mg/L	0.0050	1		10/21/14 08:22	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0050	1		10/21/14 08:22	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0050	1		10/21/14 08:22	106-43-4	
Dibromochloromethane	ND	mg/L	0.0050	1		10/21/14 08:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0050	1		10/21/14 08:22	106-93-4	
Dibromomethane	ND	mg/L	0.0050	1		10/21/14 08:22	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0050	1		10/21/14 08:22	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0050	1		10/21/14 08:22	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0050	1		10/21/14 08:22	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.10	1		10/21/14 08:22	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0050	1		10/21/14 08:22	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0050	1		10/21/14 08:22	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0050	1		10/21/14 08:22	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0050	1		10/21/14 08:22	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/21/14 08:22	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/21/14 08:22	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0050	1		10/21/14 08:22	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0050	1		10/21/14 08:22	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0050	1		10/21/14 08:22	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0050	1		10/21/14 08:22	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/21/14 08:22	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/21/14 08:22	10061-02-6	
Ethylbenzene	ND	mg/L	0.0050	1		10/21/14 08:22	100-41-4	
Ethyl methacrylate	ND	mg/L	0.10	1		10/21/14 08:22	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/L	0.0050	1		10/21/14 08:22	87-68-3	
n-Hexane	ND	mg/L	0.0050	1		10/21/14 08:22	110-54-3	
2-Hexanone	ND	mg/L	0.025	1		10/21/14 08:22	591-78-6	
Iodomethane	ND	mg/L	0.010	1		10/21/14 08:22	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/L	0.0050	1		10/21/14 08:22	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: GW-FD-101314-01		Lab ID: 50105286004	Collected: 10/13/14 08:00	Received: 10/14/14 10:25	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND	mg/L	0.0050	1		10/21/14 08:22	99-87-6	
Methylene Chloride	ND	mg/L	0.0050	1		10/21/14 08:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.025	1		10/21/14 08:22	108-10-1	
Methyl-tert-butyl ether	ND	mg/L	0.0040	1		10/21/14 08:22	1634-04-4	
Naphthalene	ND	mg/L	0.0050	1		10/21/14 08:22	91-20-3	
n-Propylbenzene	ND	mg/L	0.0050	1		10/21/14 08:22	103-65-1	
Styrene	ND	mg/L	0.0050	1		10/21/14 08:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0050	1		10/21/14 08:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0050	1		10/21/14 08:22	79-34-5	
Tetrachloroethene	0.030	mg/L	0.0050	1		10/21/14 08:22	127-18-4	
Toluene	ND	mg/L	0.0050	1		10/21/14 08:22	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/L	0.0050	1		10/21/14 08:22	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/L	0.0050	1		10/21/14 08:22	120-82-1	
1,1,1-Trichloroethane	ND	mg/L	0.0050	1		10/21/14 08:22	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0050	1		10/21/14 08:22	79-00-5	
Trichloroethene	ND	mg/L	0.0050	1		10/21/14 08:22	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0050	1		10/21/14 08:22	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0050	1		10/21/14 08:22	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/L	0.0050	1		10/21/14 08:22	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/L	0.0050	1		10/21/14 08:22	108-67-8	
Vinyl acetate	ND	mg/L	0.050	1		10/21/14 08:22	108-05-4	
Vinyl chloride	ND	mg/L	0.0020	1		10/21/14 08:22	75-01-4	
Xylene (Total)	ND	mg/L	0.010	1		10/21/14 08:22	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102 %		79-116	1		10/21/14 08:22	1868-53-7	
4-Bromofluorobenzene (S)	96 %		80-114	1		10/21/14 08:22	460-00-4	
Toluene-d8 (S)	101 %		81-110	1		10/21/14 08:22	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: **GW-MW-EPA-11-101314** Lab ID: **50105286003** Collected: 10/13/14 18:20 Received: 10/14/14 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/21/14 07:50	67-64-1	
Acrolein	ND mg/L	U	0.050	1		10/21/14 07:50	107-02-8	
Acrylonitrile	ND mg/L	U	0.10	1		10/21/14 07:50	107-13-1	
Benzene	ND mg/L	U	0.0050	1		10/21/14 07:50	71-43-2	
Bromobenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	108-86-1	
Bromochloromethane	ND mg/L	U	0.0050	1		10/21/14 07:50	74-97-5	
Bromodichloromethane	ND mg/L	U	0.0050	1		10/21/14 07:50	75-27-4	
Bromoform	ND mg/L	U	0.0050	1		10/21/14 07:50	75-25-2	
Bromomethane	ND mg/L	U	0.0050	1		10/21/14 07:50	74-83-9	
2-Butanone (MEK)	ND mg/L	U	0.025	1		10/21/14 07:50	78-93-3	
n-Butylbenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	104-51-8	
sec-Butylbenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	135-98-8	
tert-Butylbenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	98-06-6	
Carbon disulfide	ND mg/L	U	0.010	1		10/21/14 07:50	75-15-0	
Carbon tetrachloride	ND mg/L	U	0.0050	1		10/21/14 07:50	56-23-5	
Chlorobenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	108-90-7	
Chloroethane	ND mg/L	U	0.0050	1		10/21/14 07:50	75-00-3	
Chloroform	ND mg/L	U	0.0050	1		10/21/14 07:50	67-66-3	
Chloromethane	ND mg/L	U	0.0050	1		10/21/14 07:50	74-87-3	
2-Chlorotoluene	ND mg/L	U	0.0050	1		10/21/14 07:50	95-49-8	
4-Chlorotoluene	ND mg/L	U	0.0050	1		10/21/14 07:50	106-43-4	
Dibromochloromethane	ND mg/L	U	0.0050	1		10/21/14 07:50	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L	U	0.0050	1		10/21/14 07:50	106-93-4	
Dibromomethane	ND mg/L	U	0.0050	1		10/21/14 07:50	74-95-3	
1,2-Dichlorobenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	95-50-1	
1,3-Dichlorobenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	541-73-1	
1,4-Dichlorobenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	U	0.10	1		10/21/14 07:50	110-57-6	
Dichlorodifluoromethane	ND mg/L	U	0.0050	1		10/21/14 07:50	75-71-8	
1,1-Dichloroethane	ND mg/L	U	0.0050	1		10/21/14 07:50	75-34-3	
1,2-Dichloroethane	ND mg/L	U	0.0050	1		10/21/14 07:50	107-06-2	
1,1-Dichloroethene	ND mg/L	U	0.0050	1		10/21/14 07:50	75-35-4	
cis-1,2-Dichloroethene	ND mg/L	U	0.0050	1		10/21/14 07:50	156-59-2	
trans-1,2-Dichloroethene	ND mg/L	U	0.0050	1		10/21/14 07:50	156-60-5	
1,2-Dichloropropane	ND mg/L	U	0.0050	1		10/21/14 07:50	78-87-5	
1,3-Dichloropropane	ND mg/L	U	0.0050	1		10/21/14 07:50	142-28-9	
2,2-Dichloropropane	ND mg/L	U	0.0050	1		10/21/14 07:50	594-20-7	
1,1-Dichloropropene	ND mg/L	U	0.0050	1		10/21/14 07:50	563-58-6	
cis-1,3-Dichloropropene	ND mg/L	U	0.0050	1		10/21/14 07:50	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L	U	0.0050	1		10/21/14 07:50	10061-02-6	
Ethylbenzene	ND mg/L	U	0.0050	1		10/21/14 07:50	100-41-4	
Ethyl methacrylate	ND mg/L	U	0.10	1		10/21/14 07:50	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	U	0.0050	1		10/21/14 07:50	87-68-3	
n-Hexane	ND mg/L	U	0.0050	1		10/21/14 07:50	110-54-3	
2-Hexanone	ND mg/L	U	0.025	1		10/21/14 07:50	591-78-6	
Iodomethane	ND mg/L	U	0.010	1		10/21/14 07:50	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L	U	0.0050	1		10/21/14 07:50	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: **GW-MW-EPA-11-101314** Lab ID: **50105286003** Collected: 10/13/14 18:20 Received: 10/14/14 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND	mg/L	0.0050	1		10/21/14 07:50	99-87-6	
Methylene Chloride	ND	mg/L	0.0050	1		10/21/14 07:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.025	1		10/21/14 07:50	108-10-1	
Methyl-tert-butyl ether	ND	mg/L	0.0040	1		10/21/14 07:50	1634-04-4	
Naphthalene	ND	mg/L	0.0050	1		10/21/14 07:50	91-20-3	
n-Propylbenzene	ND	mg/L	0.0050	1		10/21/14 07:50	103-65-1	
Styrene	ND	mg/L	0.0050	1		10/21/14 07:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0050	1		10/21/14 07:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0050	1		10/21/14 07:50	79-34-5	
Tetrachloroethene	ND	mg/L	0.0050	1		10/21/14 07:50	127-18-4	
Toluene	ND	mg/L	0.0050	1		10/21/14 07:50	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/L	0.0050	1		10/21/14 07:50	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/L	0.0050	1		10/21/14 07:50	120-82-1	
1,1,1-Trichloroethane	ND	mg/L	0.0050	1		10/21/14 07:50	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0050	1		10/21/14 07:50	79-00-5	
Trichloroethene	ND	mg/L	0.0050	1		10/21/14 07:50	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0050	1		10/21/14 07:50	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0050	1		10/21/14 07:50	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/L	0.0050	1		10/21/14 07:50	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/L	0.0050	1		10/21/14 07:50	108-67-8	
Vinyl acetate	ND	mg/L	0.050	1		10/21/14 07:50	108-05-4	
Vinyl chloride	ND	mg/L	0.0020	1		10/21/14 07:50	75-01-4	
Xylene (Total)	ND	mg/L	0.010	1		10/21/14 07:50	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102 %		79-116	1		10/21/14 07:50	1868-53-7	
4-Bromofluorobenzene (S)	96 %		80-114	1		10/21/14 07:50	460-00-4	
Toluene-d8 (S)	100 %		81-110	1		10/21/14 07:50	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: **GW-FD-101314-02** Lab ID: **50105286005** Collected: 10/13/14 08:00 Received: 10/14/14 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	U	0.10	1		10/21/14 08:55	67-64-1	
Acrolein	ND mg/L	U	0.050	1		10/21/14 08:55	107-02-8	
Acrylonitrile	ND mg/L	U	0.10	1		10/21/14 08:55	107-13-1	
Benzene	ND mg/L	U	0.0050	1		10/21/14 08:55	71-43-2	
Bromobenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	108-86-1	
Bromochloromethane	ND mg/L	U	0.0050	1		10/21/14 08:55	74-97-5	
Bromodichloromethane	ND mg/L	U	0.0050	1		10/21/14 08:55	75-27-4	
Bromoform	ND mg/L	U	0.0050	1		10/21/14 08:55	75-25-2	
Bromomethane	ND mg/L	U	0.0050	1		10/21/14 08:55	74-83-9	
2-Butanone (MEK)	ND mg/L	U	0.025	1		10/21/14 08:55	78-93-3	
n-Butylbenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	104-51-8	
sec-Butylbenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	135-98-8	
tert-Butylbenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	98-06-6	
Carbon disulfide	ND mg/L	U	0.010	1		10/21/14 08:55	75-15-0	
Carbon tetrachloride	ND mg/L	U	0.0050	1		10/21/14 08:55	56-23-5	
Chlorobenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	108-90-7	
Chloroethane	ND mg/L	U	0.0050	1		10/21/14 08:55	75-00-3	
Chloroform	ND mg/L	U	0.0050	1		10/21/14 08:55	67-66-3	
Chloromethane	ND mg/L	U	0.0050	1		10/21/14 08:55	74-87-3	
2-Chlorotoluene	ND mg/L	U	0.0050	1		10/21/14 08:55	95-49-8	
4-Chlorotoluene	ND mg/L	U	0.0050	1		10/21/14 08:55	106-43-4	
Dibromochloromethane	ND mg/L	U	0.0050	1		10/21/14 08:55	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L	U	0.0050	1		10/21/14 08:55	106-93-4	
Dibromomethane	ND mg/L	U	0.0050	1		10/21/14 08:55	74-95-3	
1,2-Dichlorobenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	95-50-1	
1,3-Dichlorobenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	541-73-1	
1,4-Dichlorobenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	U	0.10	1		10/21/14 08:55	110-57-6	
Dichlorodifluoromethane	ND mg/L	U	0.0050	1		10/21/14 08:55	75-71-8	
1,1-Dichloroethane	ND mg/L	U	0.0050	1		10/21/14 08:55	75-34-3	
1,2-Dichloroethane	ND mg/L	U	0.0050	1		10/21/14 08:55	107-06-2	
1,1-Dichloroethene	ND mg/L	U	0.0050	1		10/21/14 08:55	75-35-4	
cis-1,2-Dichloroethene	ND mg/L	U	0.0050	1		10/21/14 08:55	156-59-2	
trans-1,2-Dichloroethene	ND mg/L	U	0.0050	1		10/21/14 08:55	156-60-5	
1,2-Dichloropropane	ND mg/L	U	0.0050	1		10/21/14 08:55	78-87-5	
1,3-Dichloropropane	ND mg/L	U	0.0050	1		10/21/14 08:55	142-28-9	
2,2-Dichloropropane	ND mg/L	U	0.0050	1		10/21/14 08:55	594-20-7	
1,1-Dichloropropene	ND mg/L	U	0.0050	1		10/21/14 08:55	563-58-6	
cis-1,3-Dichloropropene	ND mg/L	U	0.0050	1		10/21/14 08:55	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L	U	0.0050	1		10/21/14 08:55	10061-02-6	
Ethylbenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	100-41-4	
Ethyl methacrylate	ND mg/L	U	0.10	1		10/21/14 08:55	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	U	0.0050	1		10/21/14 08:55	87-68-3	
n-Hexane	ND mg/L	U	0.0050	1		10/21/14 08:55	110-54-3	
2-Hexanone	ND mg/L	U	0.025	1		10/21/14 08:55	591-78-6	
Iodomethane	ND mg/L	U	0.010	1		10/21/14 08:55	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L	U	0.0050	1		10/21/14 08:55	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: **GW-FD-101314-02** Lab ID: **50105286005** Collected: 10/13/14 08:00 Received: 10/14/14 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/21/14 08:55	99-87-6	
Methylene Chloride	ND mg/L	U	0.0050	1		10/21/14 08:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.025	1		10/21/14 08:55	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.0040	1		10/21/14 08:55	1634-04-4	
Naphthalene	ND mg/L	U	0.0050	1		10/21/14 08:55	91-20-3	
n-Propylbenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	103-65-1	
Styrene	ND mg/L	U	0.0050	1		10/21/14 08:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/21/14 08:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/21/14 08:55	79-34-5	
Tetrachloroethene	ND mg/L	U	0.0050	1		10/21/14 08:55	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/21/14 08:55	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.0050	1		10/21/14 08:55	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.0050	1		10/21/14 08:55	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/21/14 08:55	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.0050	1		10/21/14 08:55	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.0050	1		10/21/14 08:55	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.0050	1		10/21/14 08:55	108-67-8	
Vinyl acetate	ND mg/L	U	0.050	1		10/21/14 08:55	108-05-4	
Vinyl chloride	ND mg/L	U	0.0020	1		10/21/14 08:55	75-01-4	
Xylene (Total)	ND mg/L	U	0.010	1		10/21/14 08:55	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104 %		79-116	1		10/21/14 08:55	1868-53-7	
4-Bromofluorobenzene (S)	94 %		80-114	1		10/21/14 08:55	460-00-4	
Toluene-d8 (S)	98 %		81-110	1		10/21/14 08:55	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: TB-101314-01		Lab ID: 50105286001	Collected: 10/13/14 07:00	Received: 10/14/14 10:25	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	0.10	1			10/18/14 19:01	67-64-1	
Acrolein	ND mg/L	0.050	1			10/18/14 19:01	107-02-8	
Acrylonitrile	ND mg/L	0.10	1			10/18/14 19:01	107-13-1	
Benzene	ND mg/L	0.0050	1			10/18/14 19:01	71-43-2	
Bromobenzene	ND mg/L	0.0050	1			10/18/14 19:01	108-86-1	
Bromochloromethane	ND mg/L	0.0050	1			10/18/14 19:01	74-97-5	
Bromodichloromethane	ND mg/L	0.0050	1			10/18/14 19:01	75-27-4	
Bromoform	ND mg/L	0.0050	1			10/18/14 19:01	75-25-2	
Bromomethane	ND mg/L	0.0050	1			10/18/14 19:01	74-83-9	
2-Butanone (MEK)	ND mg/L	0.025	1			10/18/14 19:01	78-93-3	
n-Butylbenzene	ND mg/L	0.0050	1			10/18/14 19:01	104-51-8	
sec-Butylbenzene	ND mg/L	0.0050	1			10/18/14 19:01	135-98-8	
tert-Butylbenzene	ND mg/L	0.0050	1			10/18/14 19:01	98-06-6	
Carbon disulfide	ND mg/L	0.010	1			10/18/14 19:01	75-15-0	
Carbon tetrachloride	ND mg/L	0.0050	1			10/18/14 19:01	56-23-5	
Chlorobenzene	ND mg/L	0.0050	1			10/18/14 19:01	108-90-7	
Chloroethane	ND mg/L	0.0050	1			10/18/14 19:01	75-00-3	
Chloroform	ND mg/L	0.0050	1			10/18/14 19:01	67-66-3	
Chloromethane	ND mg/L	0.0050	1			10/18/14 19:01	74-87-3	
2-Chlorotoluene	ND mg/L	0.0050	1			10/18/14 19:01	95-49-8	
4-Chlorotoluene	ND mg/L	0.0050	1			10/18/14 19:01	106-43-4	
Dibromochloromethane	ND mg/L	0.0050	1			10/18/14 19:01	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L	0.0050	1			10/18/14 19:01	106-93-4	
Dibromomethane	ND mg/L	0.0050	1			10/18/14 19:01	74-95-3	
1,2-Dichlorobenzene	ND mg/L	0.0050	1			10/18/14 19:01	95-50-1	
1,3-Dichlorobenzene	ND mg/L	0.0050	1			10/18/14 19:01	541-73-1	
1,4-Dichlorobenzene	ND mg/L	0.0050	1			10/18/14 19:01	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	0.10	1			10/18/14 19:01	110-57-6	
Dichlorodifluoromethane	ND mg/L	0.0050	1			10/18/14 19:01	75-71-8	
1,1-Dichloroethane	ND mg/L	0.0050	1			10/18/14 19:01	75-34-3	
1,2-Dichloroethane	ND mg/L	0.0050	1			10/18/14 19:01	107-06-2	
1,1-Dichloroethene	ND mg/L	0.0050	1			10/18/14 19:01	75-35-4	
cis-1,2-Dichloroethene	ND mg/L	0.0050	1			10/18/14 19:01	156-59-2	
trans-1,2-Dichloroethene	ND mg/L	0.0050	1			10/18/14 19:01	156-60-5	
1,2-Dichloropropane	ND mg/L	0.0050	1			10/18/14 19:01	78-87-5	
1,3-Dichloropropane	ND mg/L	0.0050	1			10/18/14 19:01	142-28-9	
2,2-Dichloropropane	ND mg/L	0.0050	1			10/18/14 19:01	594-20-7	
1,1-Dichloropropene	ND mg/L	0.0050	1			10/18/14 19:01	563-58-6	
cis-1,3-Dichloropropene	ND mg/L	0.0050	1			10/18/14 19:01	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L	0.0050	1			10/18/14 19:01	10061-02-6	
Ethylbenzene	ND mg/L	0.0050	1			10/18/14 19:01	100-41-4	
Ethyl methacrylate	ND mg/L	0.10	1			10/18/14 19:01	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	0.0050	1			10/18/14 19:01	87-68-3	
n-Hexane	ND mg/L	0.0050	1			10/18/14 19:01	110-54-3	
2-Hexanone	ND mg/L	0.025	1			10/18/14 19:01	591-78-6	
Iodomethane	ND mg/L	0.010	1			10/18/14 19:01	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L	0.0050	1			10/18/14 19:01	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105286

Sample: TB-101314-01	Lab ID: 50105286001	Collected: 10/13/14 07:00	Received: 10/14/14 10:25	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L		0.0050	1		10/18/14 19:01	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/18/14 19:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/18/14 19:01	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/18/14 19:01	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/18/14 19:01	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/18/14 19:01	103-65-1	
Styrene	ND mg/L		0.0050	1		10/18/14 19:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 19:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 19:01	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/18/14 19:01	127-18-4	
Toluene	ND mg/L		0.0050	1		10/18/14 19:01	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 19:01	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 19:01	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/18/14 19:01	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/18/14 19:01	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/18/14 19:01	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/18/14 19:01	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/18/14 19:01	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 19:01	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 19:01	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/18/14 19:01	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/18/14 19:01	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/18/14 19:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	109 %		79-116	1		10/18/14 19:01	1868-53-7	
4-Bromofluorobenzene (S)	93 %		80-114	1		10/18/14 19:01	460-00-4	
Toluene-d8 (S)	98 %		81-110	1		10/18/14 19:01	2037-26-5	

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DATA VALIDATION CHECKLIST – STAGE 4

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Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/23/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	50105357	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – SW-846 Method 8260B		
Samples	GW-MW-2-101414; GW-MW-5-101414; GW-MW-6-101414; GW-MW-EPA-12-101414; and GW-MW-EPA-13-101414		
Field Blanks	TB-101414-01		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
	Cooler received at 1.1 degrees Celsius – no action (samples received intact and not frozen)

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Initial Calibration:

Within Criteria	Exceedance/Notes
X	

Continuing Calibration:

Within Criteria	Exceedance/Notes
	%D exceeded criteria for trans-1,4-dichloro-2-butene and ethyl methacrylate – flag “UJ”

Calibration Verification:

Within Criteria	Exceedance/Notes
X	

Method blanks:

Within Criteria	Exceedance/Notes
X	

Field blanks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
X	

MS/MSD:

Within Criteria	Exceedance/Notes
X	Note: abbreviated list of analytes was spiked

Field duplicates:

Within Criteria	Exceedance/Notes
	None for this data package

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
X	Note: abbreviated list of analytes was spiked

Sample dilutions:

Within Criteria	Exceedance/Notes
	None were required



DATA VALIDATION CHECKLIST – STAGE 4

(Page 4 of 5)

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None were required

Internal Standards:

Within Criteria	Exceedance/Notes
X	

Target analyte identification:

Within Criteria	Exceedance/Notes
X	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action

System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105357

Sample: GW-MW-2-101414

Lab ID: 50105357005

Collected: 10/14/14 15:50

Received: 10/15/14 10:08

Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	U	0.10	1		10/18/14 12:16	67-64-1	
Acrolein	ND mg/L		0.050	1		10/18/14 12:16	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/18/14 12:16	107-13-1	
Benzene	ND mg/L		0.0050	1		10/18/14 12:16	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/18/14 12:16	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/18/14 12:16	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/18/14 12:16	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/18/14 12:16	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/18/14 12:16	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/18/14 12:16	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/18/14 12:16	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/18/14 12:16	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/18/14 12:16	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/18/14 12:16	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/18/14 12:16	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/18/14 12:16	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/18/14 12:16	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/18/14 12:16	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/18/14 12:16	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 12:16	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 12:16	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/18/14 12:16	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/18/14 12:16	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/18/14 12:16	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 12:16	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 12:16	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 12:16	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	UJ	0.10	1		10/18/14 12:16	110-57-6	
Dichlorodifluoromethane	ND mg/L	U	0.0050	1		10/18/14 12:16	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/18/14 12:16	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/18/14 12:16	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/18/14 12:16	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 12:16	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 12:16	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 12:16	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/18/14 12:16	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 12:16	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/18/14 12:16	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 12:16	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 12:16	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/18/14 12:16	100-41-4	
Ethyl methacrylate	ND mg/L	UJ	0.10	1		10/18/14 12:16	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	U	0.0050	1		10/18/14 12:16	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/18/14 12:16	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/18/14 12:16	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/18/14 12:16	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/18/14 12:16	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105357

Sample: GW-MW-2-101414		Lab ID: 50105357005	Collected: 10/14/14 15:50	Received: 10/15/14 10:08	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/18/14 12:16	99-87-6	
Methylene Chloride	ND mg/L	U	0.0050	1		10/18/14 12:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.025	1		10/18/14 12:16	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.0040	1		10/18/14 12:16	1634-04-4	
Naphthalene	ND mg/L	U	0.0050	1		10/18/14 12:16	91-20-3	
n-Propylbenzene	ND mg/L	U	0.0050	1		10/18/14 12:16	103-65-1	
Styrene	ND mg/L	U	0.0050	1		10/18/14 12:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/18/14 12:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/18/14 12:16	79-34-5	
Tetrachloroethene	0.0093 mg/L	U	0.0050	1		10/18/14 12:16	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/18/14 12:16	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.0050	1		10/18/14 12:16	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.0050	1		10/18/14 12:16	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.0050	1		10/18/14 12:16	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.0050	1		10/18/14 12:16	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/18/14 12:16	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.0050	1		10/18/14 12:16	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.0050	1		10/18/14 12:16	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.0050	1		10/18/14 12:16	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.0050	1		10/18/14 12:16	108-67-8	
Vinyl acetate	ND mg/L	U	0.050	1		10/18/14 12:16	108-05-4	
Vinyl chloride	ND mg/L	U	0.0020	1		10/18/14 12:16	75-01-4	
Xylene (Total)	ND mg/L	U	0.010	1		10/18/14 12:16	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	98 %		79-116	1		10/18/14 12:16	1868-53-7	
4-Bromofluorobenzene (S)	98 %		80-114	1		10/18/14 12:16	460-00-4	
Toluene-d8 (S)	99 %		81-110	1		10/18/14 12:16	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105357

Sample: GW-MW-5-101414		Lab ID: 50105357003	Collected: 10/14/14 10:10	Received: 10/15/14 10:08	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/18/14 09:38	67-64-1	
Acrolein	ND mg/L		0.050	1		10/18/14 09:38	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/18/14 09:38	107-13-1	
Benzene	ND mg/L		0.0050	1		10/18/14 09:38	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/18/14 09:38	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/18/14 09:38	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/18/14 09:38	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/18/14 09:38	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/18/14 09:38	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/18/14 09:38	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/18/14 09:38	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/18/14 09:38	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/18/14 09:38	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/18/14 09:38	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/18/14 09:38	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/18/14 09:38	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/18/14 09:38	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/18/14 09:38	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/18/14 09:38	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 09:38	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 09:38	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/18/14 09:38	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/18/14 09:38	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/18/14 09:38	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 09:38	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 09:38	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 09:38	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	55	0.10	1		10/18/14 09:38	110-57-6	
Dichlorodifluoromethane	ND mg/L	55	0.0050	1		10/18/14 09:38	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/18/14 09:38	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/18/14 09:38	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/18/14 09:38	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 09:38	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 09:38	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 09:38	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/18/14 09:38	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 09:38	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/18/14 09:38	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 09:38	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 09:38	10061-02-6	
Ethylbenzene	ND mg/L	55	0.0050	1		10/18/14 09:38	100-41-4	
Ethyl methacrylate	ND mg/L	55	0.10	1		10/18/14 09:38	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	55	0.0050	1		10/18/14 09:38	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/18/14 09:38	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/18/14 09:38	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/18/14 09:38	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/18/14 09:38	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105357

Sample: GW-MW-5-101414	Lab ID: 50105357003	Collected: 10/14/14 10:10	Received: 10/15/14 10:08	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L		0.0050	1		10/18/14 09:38	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/18/14 09:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/18/14 09:38	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/18/14 09:38	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/18/14 09:38	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/18/14 09:38	103-65-1	
Styrene	ND mg/L		0.0050	1		10/18/14 09:38	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 09:38	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 09:38	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/18/14 09:38	127-18-4	
Toluene	ND mg/L		0.0050	1		10/18/14 09:38	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 09:38	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 09:38	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/18/14 09:38	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/18/14 09:38	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/18/14 09:38	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/18/14 09:38	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/18/14 09:38	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 09:38	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 09:38	108-67-8	
Vinyl acetate	ND mg/L	0.050	1		10/18/14 09:38	108-05-4		
Vinyl chloride	ND mg/L	0.0020	1		10/18/14 09:38	75-01-4		
Xylene (Total)	ND mg/L	0.010	1		10/18/14 09:38	1330-20-7		
Surrogates								
Dibromofluoromethane (S)	100 %.		79-116	1		10/18/14 09:38	1868-53-7	
4-Bromofluorobenzene (S)	100 %.		80-114	1		10/18/14 09:38	460-00-4	
Toluene-d8 (S)	97 %.		81-110	1		10/18/14 09:38	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105357

Sample: GW-MW-6-101414		Lab ID: 50105357002	Collected: 10/14/14 10:06	Received: 10/15/14 10:08	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	0.10	1		10/18/14 08:59	67-64-1		
Acrolein	ND mg/L	0.050	1		10/18/14 08:59	107-02-8		
Acrylonitrile	ND mg/L	0.10	1		10/18/14 08:59	107-13-1		
Benzene	ND mg/L	0.0050	1		10/18/14 08:59	71-43-2		
Bromobenzene	ND mg/L	0.0050	1		10/18/14 08:59	108-86-1		
Bromochloromethane	ND mg/L	0.0050	1		10/18/14 08:59	74-97-5		
Bromodichloromethane	ND mg/L	0.0050	1		10/18/14 08:59	75-27-4		
Bromoform	ND mg/L	0.0050	1		10/18/14 08:59	75-25-2		
Bromomethane	ND mg/L	0.0050	1		10/18/14 08:59	74-83-9		
2-Butanone (MEK)	ND mg/L	0.025	1		10/18/14 08:59	78-93-3		
n-Butylbenzene	ND mg/L	0.0050	1		10/18/14 08:59	104-51-8		
sec-Butylbenzene	ND mg/L	0.0050	1		10/18/14 08:59	135-98-8		
tert-Butylbenzene	ND mg/L	0.0050	1		10/18/14 08:59	98-06-6		
Carbon disulfide	ND mg/L	0.010	1		10/18/14 08:59	75-15-0		
Carbon tetrachloride	ND mg/L	0.0050	1		10/18/14 08:59	56-23-5		
Chlorobenzene	ND mg/L	0.0050	1		10/18/14 08:59	108-90-7		
Chloroethane	ND mg/L	0.0050	1		10/18/14 08:59	75-00-3		
Chloroform	ND mg/L	0.0050	1		10/18/14 08:59	67-66-3		
Chloromethane	ND mg/L	0.0050	1		10/18/14 08:59	74-87-3		
2-Chlorotoluene	ND mg/L	0.0050	1		10/18/14 08:59	95-49-8		
4-Chlorotoluene	ND mg/L	0.0050	1		10/18/14 08:59	106-43-4		
Dibromochloromethane	ND mg/L	0.0050	1		10/18/14 08:59	124-48-1		
1,2-Dibromoethane (EDB)	ND mg/L	0.0050	1		10/18/14 08:59	106-93-4		
Dibromomethane	ND mg/L	0.0050	1		10/18/14 08:59	74-95-3		
1,2-Dichlorobenzene	ND mg/L	0.0050	1		10/18/14 08:59	95-50-1		
1,3-Dichlorobenzene	ND mg/L	0.0050	1		10/18/14 08:59	541-73-1		
1,4-Dichlorobenzene	ND mg/L	0.0050	1		10/18/14 08:59	106-46-7		
trans-1,4-Dichloro-2-butene	ND mg/L	0.10	1		10/18/14 08:59	110-57-6		
Dichlorodifluoromethane	ND mg/L	0.0050	1		10/18/14 08:59	75-71-8		
1,1-Dichloroethane	ND mg/L	0.0050	1		10/18/14 08:59	75-34-3		
1,2-Dichloroethane	ND mg/L	0.0050	1		10/18/14 08:59	107-06-2		
1,1-Dichloroethene	ND mg/L	0.0050	1		10/18/14 08:59	75-35-4		
cis-1,2-Dichloroethene	ND mg/L	0.0050	1		10/18/14 08:59	156-59-2		
trans-1,2-Dichloroethene	ND mg/L	0.0050	1		10/18/14 08:59	156-60-5		
1,2-Dichloropropane	ND mg/L	0.0050	1		10/18/14 08:59	78-87-5		
1,3-Dichloropropane	ND mg/L	0.0050	1		10/18/14 08:59	142-28-9		
2,2-Dichloropropane	ND mg/L	0.0050	1		10/18/14 08:59	594-20-7		
1,1-Dichloropropene	ND mg/L	0.0050	1		10/18/14 08:59	563-58-6		
cis-1,3-Dichloropropene	ND mg/L	0.0050	1		10/18/14 08:59	10061-01-5		
trans-1,3-Dichloropropene	ND mg/L	0.0050	1		10/18/14 08:59	10061-02-6		
Ethylbenzene	ND mg/L	0.0050	1		10/18/14 08:59	100-41-4		
Ethyl methacrylate	ND mg/L	0.10	1		10/18/14 08:59	97-63-2		
Hexachloro-1,3-butadiene	ND mg/L	0.0050	1		10/18/14 08:59	87-68-3		
n-Hexane	ND mg/L	0.0050	1		10/18/14 08:59	110-54-3		
2-Hexanone	ND mg/L	0.025	1		10/18/14 08:59	591-78-6		
Iodomethane	ND mg/L	0.010	1		10/18/14 08:59	74-88-4		
Isopropylbenzene (Cumene)	ND mg/L	0.0050	1		10/18/14 08:59	98-82-8		

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105357

Sample: GW-MW-6-101414		Lab ID: 50105357002	Collected: 10/14/14 10:06	Received: 10/15/14 10:08	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/18/14 08:59	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/18/14 08:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/18/14 08:59	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/18/14 08:59	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/18/14 08:59	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/18/14 08:59	103-65-1	
Styrene	ND mg/L		0.0050	1		10/18/14 08:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 08:59	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 08:59	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/18/14 08:59	127-18-4	
Toluene	ND mg/L		0.0050	1		10/18/14 08:59	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 08:59	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 08:59	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/18/14 08:59	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/18/14 08:59	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/18/14 08:59	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/18/14 08:59	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/18/14 08:59	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 08:59	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 08:59	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/18/14 08:59	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/18/14 08:59	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/18/14 08:59	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	107 %		79-116	1		10/18/14 08:59	1868-53-7	
4-Bromofluorobenzene (S)	101 %		80-114	1		10/18/14 08:59	460-00-4	
Toluene-d8 (S)	92 %		81-110	1		10/18/14 08:59	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105357

Sample: GW-MW-EPA-12-101414 Lab ID: 50105357004 Collected: 10/14/14 13:00 Received: 10/15/14 10:08 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	U	0.10	1		10/18/14 10:17	67-64-1	
Acrolein	ND mg/L		0.050	1		10/18/14 10:17	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/18/14 10:17	107-13-1	
Benzene	ND mg/L		0.0050	1		10/18/14 10:17	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/18/14 10:17	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/18/14 10:17	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/18/14 10:17	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/18/14 10:17	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/18/14 10:17	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/18/14 10:17	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/18/14 10:17	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/18/14 10:17	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/18/14 10:17	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/18/14 10:17	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/18/14 10:17	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/18/14 10:17	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/18/14 10:17	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/18/14 10:17	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/18/14 10:17	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 10:17	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 10:17	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/18/14 10:17	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/18/14 10:17	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/18/14 10:17	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 10:17	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 10:17	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 10:17	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	U	0.10	1		10/18/14 10:17	110-57-6	
Dichlorodifluoromethane	ND mg/L	U	0.0050	1		10/18/14 10:17	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/18/14 10:17	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/18/14 10:17	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/18/14 10:17	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 10:17	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 10:17	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 10:17	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/18/14 10:17	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 10:17	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/18/14 10:17	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 10:17	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 10:17	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/18/14 10:17	100-41-4	
Ethyl methacrylate	ND mg/L	U	0.10	1		10/18/14 10:17	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	U	0.0050	1		10/18/14 10:17	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/18/14 10:17	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/18/14 10:17	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/18/14 10:17	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/18/14 10:17	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105357

Sample: GW-MW-EPA-12-101414		Lab ID: 50105357004	Collected: 10/14/14 13:00	Received: 10/15/14 10:08	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
p-Isopropyltoluene	ND mg/L		0.0050	1		10/18/14 10:17	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/18/14 10:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/18/14 10:17	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/18/14 10:17	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/18/14 10:17	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/18/14 10:17	103-65-1	
Styrene	ND mg/L		0.0050	1		10/18/14 10:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 10:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 10:17	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/18/14 10:17	127-18-4	
Toluene	ND mg/L		0.0050	1		10/18/14 10:17	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 10:17	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 10:17	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/18/14 10:17	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/18/14 10:17	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/18/14 10:17	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/18/14 10:17	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/18/14 10:17	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 10:17	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 10:17	108-67-8	
Vinyl acetate	ND mg/L	0.050	1		10/18/14 10:17	108-05-4		
Vinyl chloride	ND mg/L	0.0020	1		10/18/14 10:17	75-01-4		
Xylene (Total)	ND mg/L	0.010	1		10/18/14 10:17	1330-20-7		
Surrogates								
Dibromofluoromethane (S)	100 %.		79-116	1		10/18/14 10:17	1868-53-7	
4-Bromofluorobenzene (S)	104 %.		80-114	1		10/18/14 10:17	460-00-4	
Toluene-d8 (S)	101 %.		81-110	1		10/18/14 10:17	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105357

Sample: GW-MW-EPA-13-101414 Lab ID: 50105357006 Collected: 10/14/14 16:20 Received: 10/15/14 10:08 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	U	0.10	1		10/18/14 12:55	67-64-1	
Acrolein	ND mg/L		0.050	1		10/18/14 12:55	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/18/14 12:55	107-13-1	
Benzene	ND mg/L		0.0050	1		10/18/14 12:55	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/18/14 12:55	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/18/14 12:55	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/18/14 12:55	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/18/14 12:55	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/18/14 12:55	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/18/14 12:55	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/18/14 12:55	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/18/14 12:55	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/18/14 12:55	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/18/14 12:55	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/18/14 12:55	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/18/14 12:55	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/18/14 12:55	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/18/14 12:55	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/18/14 12:55	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 12:55	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 12:55	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/18/14 12:55	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/18/14 12:55	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/18/14 12:55	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 12:55	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 12:55	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 12:55	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	UJ	0.10	1		10/18/14 12:55	110-57-6	
Dichlorodifluoromethane	ND mg/L	UJ	0.0050	1		10/18/14 12:55	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/18/14 12:55	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/18/14 12:55	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/18/14 12:55	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 12:55	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 12:55	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 12:55	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/18/14 12:55	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 12:55	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/18/14 12:55	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 12:55	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 12:55	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/18/14 12:55	100-41-4	
Ethyl methacrylate	ND mg/L	UJ	0.10	1		10/18/14 12:55	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/18/14 12:55	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/18/14 12:55	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/18/14 12:55	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/18/14 12:55	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/18/14 12:55	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105357

Sample: **GW-MW-EPA-13-101414** Lab ID: **50105357006** Collected: 10/14/14 16:20 Received: 10/15/14 10:08 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L		0.0050	1		10/18/14 12:55	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/18/14 12:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/18/14 12:55	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/18/14 12:55	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/18/14 12:55	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/18/14 12:55	103-65-1	
Styrene	ND mg/L		0.0050	1		10/18/14 12:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 12:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 12:55	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/18/14 12:55	127-18-4	
Toluene	ND mg/L		0.0050	1		10/18/14 12:55	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 12:55	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 12:55	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/18/14 12:55	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/18/14 12:55	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/18/14 12:55	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/18/14 12:55	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/18/14 12:55	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 12:55	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 12:55	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/18/14 12:55	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/18/14 12:55	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/18/14 12:55	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104 %		79-116	1		10/18/14 12:55	1868-53-7	
4-Bromofluorobenzene (S)	101 %		80-114	1		10/18/14 12:55	460-00-4	
Toluene-d8 (S)	97 %		81-110	1		10/18/14 12:55	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105357

Sample: TB-101414-01		Lab ID: 50105357001	Collected: 10/14/14 07:00	Received: 10/15/14 10:08	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/18/14 08:19	67-64-1	
Acrolein	ND mg/L		0.050	1		10/18/14 08:19	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/18/14 08:19	107-13-1	
Benzene	ND mg/L		0.0050	1		10/18/14 08:19	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/18/14 08:19	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/18/14 08:19	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/18/14 08:19	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/18/14 08:19	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/18/14 08:19	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/18/14 08:19	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/18/14 08:19	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/18/14 08:19	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/18/14 08:19	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/18/14 08:19	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/18/14 08:19	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/18/14 08:19	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/18/14 08:19	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/18/14 08:19	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/18/14 08:19	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 08:19	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 08:19	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/18/14 08:19	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/18/14 08:19	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/18/14 08:19	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 08:19	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 08:19	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 08:19	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	U	0.10	1		10/18/14 08:19	110-57-6	
Dichlorodifluoromethane	ND mg/L	U	0.0050	1		10/18/14 08:19	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/18/14 08:19	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/18/14 08:19	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/18/14 08:19	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 08:19	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 08:19	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 08:19	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/18/14 08:19	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 08:19	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/18/14 08:19	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 08:19	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 08:19	10061-02-6	
Ethylbenzene	ND mg/L	U	0.0050	1		10/18/14 08:19	100-41-4	
Ethyl methacrylate	ND mg/L	U	0.10	1		10/18/14 08:19	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	U	0.0050	1		10/18/14 08:19	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/18/14 08:19	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/18/14 08:19	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/18/14 08:19	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/18/14 08:19	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105357

Sample: TB-101414-01		Lab ID: 50105357001	Collected: 10/14/14 07:00	Received: 10/15/14 10:08	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
p-Isopropyltoluene	ND mg/L		0.0050	1		10/18/14 08:19	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/18/14 08:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/18/14 08:19	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/18/14 08:19	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/18/14 08:19	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/18/14 08:19	103-65-1	
Styrene	ND mg/L		0.0050	1		10/18/14 08:19	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 08:19	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 08:19	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/18/14 08:19	127-18-4	
Toluene	ND mg/L		0.0050	1		10/18/14 08:19	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 08:19	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 08:19	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/18/14 08:19	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/18/14 08:19	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/18/14 08:19	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/18/14 08:19	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/18/14 08:19	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 08:19	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 08:19	108-67-8	
Vinyl acetate	ND mg/L	0.050	1		10/18/14 08:19	108-05-4		
Vinyl chloride	ND mg/L	0.0020	1		10/18/14 08:19	75-01-4		
Xylene (Total)	ND mg/L	0.010	1		10/18/14 08:19	1330-20-7		
Surrogates								
Dibromofluoromethane (S)	101 %.		79-116	1		10/18/14 08:19	1868-53-7	
4-Bromofluorobenzene (S)	100 %.		80-114	1		10/18/14 08:19	460-00-4	
Toluene-d8 (S)	94 %.		81-110	1		10/18/14 08:19	2037-26-5	

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DATA VALIDATION CHECKLIST – STAGE 4

(Page 1 of 5)

Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/23/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	50105429	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – SW-846 Method 8260B		
Samples	GW-MW-1R-101514; GW-MW-EPA-7-101514; GW-MW-EPA-8-101514; and GW-PW-101514		
Field Blanks	TB-101514-01		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
	Laboratory corrected ID GW-MW-EPA-8-101414 to GW-MW-EPA-8-101514

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 2 of 5)

Initial Calibration:

Within Criteria	Exceedance/Notes
	RRF exceeded criteria for 1,1,2-trichloroethane – flag “R”

Continuing Calibration:

Within Criteria	Exceedance/Notes
X	10/20/2014 (12:45): %D exceeded criteria for bromoform – flag “UJ” for GW-MW-1R-101514, GW-MW-EPA-8-101514, and GW-PW-101514

Calibration Verification:

Within Criteria	Exceedance/Notes
X	

Method blanks:

Within Criteria	Exceedance/Notes
X	

Field blanks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 3 of 5)

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
X	

MS/MSD:

Within Criteria	Exceedance/Notes
X	Note: abbreviated list of analytes was spiked

Field duplicates:

Within Criteria	Exceedance/Notes
	No field duplicates included in this data package.

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
X	Note: abbreviated list of analytes was spiked

Sample dilutions:

Within Criteria	Exceedance/Notes
	5x: VOCs except tetrachloroethene for GW-MW-EPA-8-101514 100x: tetrachloroethene for GW-MW-EPA-8-101514



DATA VALIDATION CHECKLIST – STAGE 4

(Page 4 of 5)

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None were required

Internal Standards:

Within Criteria	Exceedance/Notes
X	

Target analyte identification:

Within Criteria	Exceedance/Notes
X	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action

System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105429

Sample: GW-MW-1R-101514 Lab ID: 50105429005 Collected: 10/15/14 17:00 Received: 10/16/14 10:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/17/14 22:01	67-64-1	
Acrolein	ND mg/L		0.050	1		10/17/14 22:01	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/17/14 22:01	107-13-1	
Benzene	ND mg/L		0.0050	1		10/17/14 22:01	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/17/14 22:01	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/17/14 22:01	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/17/14 22:01	75-27-4	
Bromoform	ND mg/L	U	0.0050	1		10/17/14 22:01	75-25-2	
Bromomethane	ND mg/L	U	0.0050	1		10/17/14 22:01	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/17/14 22:01	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/17/14 22:01	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/17/14 22:01	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/17/14 22:01	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/17/14 22:01	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/17/14 22:01	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/17/14 22:01	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/17/14 22:01	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/17/14 22:01	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/17/14 22:01	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 22:01	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 22:01	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/17/14 22:01	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/17/14 22:01	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/17/14 22:01	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 22:01	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 22:01	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 22:01	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/17/14 22:01	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/17/14 22:01	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/17/14 22:01	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/17/14 22:01	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/17/14 22:01	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 22:01	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 22:01	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 22:01	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/17/14 22:01	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 22:01	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/17/14 22:01	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 22:01	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 22:01	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/17/14 22:01	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/17/14 22:01	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/17/14 22:01	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/17/14 22:01	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/17/14 22:01	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/17/14 22:01	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/17/14 22:01	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105429

Sample: **GW-MW-1R-101514** Lab ID: **50105429005** Collected: 10/15/14 17:00 Received: 10/16/14 10:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/17/14 22:01	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/17/14 22:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/17/14 22:01	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/17/14 22:01	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/17/14 22:01	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/17/14 22:01	103-65-1	
Styrene	ND mg/L		0.0050	1		10/17/14 22:01	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/17/14 22:01	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/17/14 22:01	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/20/14 16:11	127-18-4	
Toluene	ND mg/L		0.0050	1		10/20/14 16:11	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/17/14 22:01	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/17/14 22:01	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/17/14 22:01	71-55-6	
1,1,2-Trichloroethane	ND mg/L	R	0.0050	1		10/17/14 22:01	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/17/14 22:01	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/17/14 22:01	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/17/14 22:01	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/17/14 22:01	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/17/14 22:01	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/17/14 22:01	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/17/14 22:01	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/17/14 22:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	97 %		79-116	1		10/17/14 22:01	1868-53-7	
4-Bromofluorobenzene (S)	103 %		80-114	1		10/17/14 22:01	460-00-4	
Toluene-d8 (S)	104 %		81-110	1		10/17/14 22:01	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105429

Sample: GW-MW-EPA-7-101514		Lab ID: 50105429002	Collected: 10/15/14 11:15	Received: 10/16/14 10:28	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L		0.10	1		10/17/14 19:17	67-64-1	
Acrolein	ND mg/L		0.050	1		10/17/14 19:17	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/17/14 19:17	107-13-1	
Benzene	ND mg/L		0.0050	1		10/17/14 19:17	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/17/14 19:17	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/17/14 19:17	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/17/14 19:17	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/17/14 19:17	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/17/14 19:17	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/17/14 19:17	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/17/14 19:17	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/17/14 19:17	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/17/14 19:17	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/17/14 19:17	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/17/14 19:17	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/17/14 19:17	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/17/14 19:17	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/17/14 19:17	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/17/14 19:17	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 19:17	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 19:17	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/17/14 19:17	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/17/14 19:17	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/17/14 19:17	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 19:17	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 19:17	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 19:17	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/17/14 19:17	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/17/14 19:17	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/17/14 19:17	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/17/14 19:17	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/17/14 19:17	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 19:17	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 19:17	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 19:17	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/17/14 19:17	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 19:17	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/17/14 19:17	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 19:17	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 19:17	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/17/14 19:17	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/17/14 19:17	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/17/14 19:17	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/17/14 19:17	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/17/14 19:17	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/17/14 19:17	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/17/14 19:17	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105429

Sample: **GW-MW-EPA-7-101514** Lab ID: **50105429002** Collected: 10/15/14 11:15 Received: 10/16/14 10:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/17/14 19:17	99-87-6	
Methylene Chloride	ND mg/L	U	0.0050	1		10/17/14 19:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.025	1		10/17/14 19:17	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.0040	1		10/17/14 19:17	1634-04-4	
Naphthalene	ND mg/L	U	0.0050	1		10/17/14 19:17	91-20-3	
n-Propylbenzene	ND mg/L	U	0.0050	1		10/17/14 19:17	103-65-1	
Styrene	ND mg/L	U	0.0050	1		10/17/14 19:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/17/14 19:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/17/14 19:17	79-34-5	
Tetrachloroethene	ND mg/L	U	0.0050	1		10/17/14 19:17	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/17/14 19:17	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.0050	1		10/17/14 19:17	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.0050	1		10/17/14 19:17	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.0050	1		10/17/14 19:17	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.0050	1		10/17/14 19:17	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/17/14 19:17	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.0050	1		10/17/14 19:17	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.0050	1		10/17/14 19:17	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.0050	1		10/17/14 19:17	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.0050	1		10/17/14 19:17	108-67-8	
Vinyl acetate	ND mg/L	U	0.050	1		10/17/14 19:17	108-05-4	
Vinyl chloride	ND mg/L	U	0.0020	1		10/17/14 19:17	75-01-4	
Xylene (Total)	ND mg/L	U	0.010	1		10/17/14 19:17	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103 %		79-116	1		10/17/14 19:17	1868-53-7	
4-Bromofluorobenzene (S)	98 %		80-114	1		10/17/14 19:17	460-00-4	
Toluene-d8 (S)	102 %		81-110	1		10/17/14 19:17	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105429

Sample: GW-MW-EPA-8-101514		Lab ID: 50105429004	Collected: 10/15/14 14:05	Received: 10/16/14 10:28	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L		0.50	5		10/20/14 18:22	67-64-1	1d,D4
Acrolein	ND mg/L		0.25	5		10/20/14 18:22	107-02-8	
Acrylonitrile	ND mg/L		0.50	5		10/20/14 18:22	107-13-1	
Benzene	ND mg/L		0.025	5		10/20/14 18:22	71-43-2	
Bromobenzene	ND mg/L		0.025	5		10/20/14 18:22	108-86-1	
Bromochloromethane	ND mg/L		0.025	5		10/20/14 18:22	74-97-5	
Bromodichloromethane	ND mg/L		0.025	5		10/20/14 18:22	75-27-4	
Bromoform	ND mg/L		0.025	5		10/20/14 18:22	75-25-2	
Bromomethane	ND mg/L		0.025	5		10/20/14 18:22	74-83-9	
2-Butanone (MEK)	ND mg/L		0.12	5		10/20/14 18:22	78-93-3	
n-Butylbenzene	ND mg/L		0.025	5		10/20/14 18:22	104-51-8	
sec-Butylbenzene	ND mg/L		0.025	5		10/20/14 18:22	135-98-8	
tert-Butylbenzene	ND mg/L		0.025	5		10/20/14 18:22	98-06-6	
Carbon disulfide	ND mg/L		0.050	5		10/20/14 18:22	75-15-0	
Carbon tetrachloride	ND mg/L		0.025	5		10/20/14 18:22	56-23-5	
Chlorobenzene	ND mg/L		0.025	5		10/20/14 18:22	108-90-7	
Chloroethane	ND mg/L		0.025	5		10/20/14 18:22	75-00-3	
Chloroform	ND mg/L		0.025	5		10/20/14 18:22	67-66-3	
Chloromethane	ND mg/L		0.025	5		10/20/14 18:22	74-87-3	
2-Chlorotoluene	ND mg/L		0.025	5		10/20/14 18:22	95-49-8	
4-Chlorotoluene	ND mg/L	0.025	5		10/20/14 18:22	106-43-4		
Dibromochloromethane	ND mg/L	0.025	5		10/20/14 18:22	124-48-1		
1,2-Dibromoethane (EDB)	ND mg/L	0.025	5		10/20/14 18:22	106-93-4		
Dibromomethane	ND mg/L	0.025	5		10/20/14 18:22	74-95-3		
1,2-Dichlorobenzene	ND mg/L	0.025	5		10/20/14 18:22	95-50-1		
1,3-Dichlorobenzene	ND mg/L	0.025	5		10/20/14 18:22	541-73-1		
1,4-Dichlorobenzene	ND mg/L	0.025	5		10/20/14 18:22	106-46-7		
trans-1,4-Dichloro-2-butene	ND mg/L	0.50	5		10/20/14 18:22	110-57-6		
Dichlorodifluoromethane	ND mg/L	0.025	5		10/20/14 18:22	75-71-8		
1,1-Dichloroethane	ND mg/L	0.025	5		10/20/14 18:22	75-34-3		
1,2-Dichloroethane	ND mg/L	0.025	5		10/20/14 18:22	107-06-2		
1,1-Dichloroethene	ND mg/L	0.025	5		10/20/14 18:22	75-35-4		
cis-1,2-Dichloroethene	ND mg/L	0.025	5		10/20/14 18:22	156-59-2		
trans-1,2-Dichloroethene	ND mg/L	0.025	5		10/20/14 18:22	156-60-5		
1,2-Dichloropropane	ND mg/L	0.025	5		10/20/14 18:22	78-87-5		
1,3-Dichloropropane	ND mg/L	0.025	5		10/20/14 18:22	142-28-9		
2,2-Dichloropropane	ND mg/L	0.025	5		10/20/14 18:22	594-20-7		
1,1-Dichloropropene	ND mg/L	0.025	5		10/20/14 18:22	563-58-6		
cis-1,3-Dichloropropene	ND mg/L	0.025	5		10/20/14 18:22	10061-01-5		
trans-1,3-Dichloropropene	ND mg/L	0.025	5		10/20/14 18:22	10061-02-6		
Ethylbenzene	ND mg/L	0.025	5		10/20/14 18:22	100-41-4		
Ethyl methacrylate	ND mg/L	0.50	5		10/20/14 18:22	97-63-2		
Hexachloro-1,3-butadiene	ND mg/L	0.025	5		10/20/14 18:22	87-68-3		
n-Hexane	ND mg/L	0.025	5		10/20/14 18:22	110-54-3		
2-Hexanone	ND mg/L	0.12	5		10/20/14 18:22	591-78-6		
Iodomethane	ND mg/L	0.050	5		10/20/14 18:22	74-88-4		
Isopropylbenzene (Cumene)	ND mg/L	0.025	5		10/20/14 18:22	98-82-8		

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105429

Sample: GW-MW-EPA-8-101514 Lab ID: 50105429004 Collected: 10/15/14 14:05 Received: 10/16/14 10:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.025	5		10/20/14 18:22	99-87-6	
Methylene Chloride	ND mg/L	U	0.025	5		10/20/14 18:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.12	5		10/20/14 18:22	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.020	5		10/20/14 18:22	1634-04-4	
Naphthalene	ND mg/L	U	0.025	5		10/20/14 18:22	91-20-3	
n-Propylbenzene	ND mg/L	U	0.025	5		10/20/14 18:22	103-65-1	
Styrene	ND mg/L	U	0.025	5		10/20/14 18:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.025	5		10/20/14 18:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.025	5		10/20/14 18:22	79-34-5	
Tetrachloroethene	19.3 mg/L	U	0.50	100		10/20/14 18:55	127-18-4	
Toluene	ND mg/L	U	0.025	5		10/20/14 18:22	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.025	5		10/20/14 18:22	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.025	5		10/20/14 18:22	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.025	5		10/20/14 18:22	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.025	5		10/20/14 18:22	79-00-5	
Trichloroethene	ND mg/L	U	0.025	5		10/20/14 18:22	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.025	5		10/20/14 18:22	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.025	5		10/20/14 18:22	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.025	5		10/20/14 18:22	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.025	5		10/20/14 18:22	108-67-8	
Vinyl acetate	ND mg/L	U	0.25	5		10/20/14 18:22	108-05-4	
Vinyl chloride	ND mg/L	U	0.010	5		10/20/14 18:22	75-01-4	
Xylene (Total)	ND mg/L	U	0.050	5		10/20/14 18:22	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	105 %		79-116	5		10/20/14 18:22	1868-53-7	
4-Bromofluorobenzene (S)	97 %		80-114	5		10/20/14 18:22	460-00-4	
Toluene-d8 (S)	103 %		81-110	5		10/20/14 18:22	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105429

Sample: GW-PW-101514 Lab ID: 50105429003 Collected: 10/15/14 13:15 Received: 10/16/14 10:28 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.10	1		10/17/14 20:55	67-64-1	
Acrolein	ND	mg/L	0.050	1		10/17/14 20:55	107-02-8	
Acrylonitrile	ND	mg/L	0.10	1		10/17/14 20:55	107-13-1	
Benzene	ND	mg/L	0.0050	1		10/17/14 20:55	71-43-2	
Bromobenzene	ND	mg/L	0.0050	1		10/17/14 20:55	108-86-1	
Bromochloromethane	ND	mg/L	0.0050	1		10/17/14 20:55	74-97-5	
Bromodichloromethane	ND	mg/L	0.0050	1		10/17/14 20:55	75-27-4	
Bromoform	ND	mg/L	0.0050	1		10/17/14 20:55	75-25-2	
Bromomethane	ND	mg/L	0.0050	1		10/17/14 20:55	74-83-9	
2-Butanone (MEK)	ND	mg/L	0.025	1		10/17/14 20:55	78-93-3	
n-Butylbenzene	ND	mg/L	0.0050	1		10/17/14 20:55	104-51-8	
sec-Butylbenzene	ND	mg/L	0.0050	1		10/17/14 20:55	135-98-8	
tert-Butylbenzene	ND	mg/L	0.0050	1		10/17/14 20:55	98-06-6	
Carbon disulfide	ND	mg/L	0.010	1		10/17/14 20:55	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0050	1		10/17/14 20:55	56-23-5	
Chlorobenzene	ND	mg/L	0.0050	1		10/17/14 20:55	108-90-7	
Chloroethane	ND	mg/L	0.0050	1		10/17/14 20:55	75-00-3	
Chloroform	ND	mg/L	0.0050	1		10/17/14 20:55	67-66-3	
Chloromethane	ND	mg/L	0.0050	1		10/17/14 20:55	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0050	1		10/17/14 20:55	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0050	1		10/17/14 20:55	106-43-4	
Dibromochloromethane	ND	mg/L	0.0050	1		10/17/14 20:55	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0050	1		10/17/14 20:55	106-93-4	
Dibromomethane	ND	mg/L	0.0050	1		10/17/14 20:55	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0050	1		10/17/14 20:55	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0050	1		10/17/14 20:55	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0050	1		10/17/14 20:55	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.10	1		10/17/14 20:55	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0050	1		10/17/14 20:55	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0050	1		10/17/14 20:55	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0050	1		10/17/14 20:55	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0050	1		10/17/14 20:55	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/17/14 20:55	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/17/14 20:55	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0050	1		10/17/14 20:55	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0050	1		10/17/14 20:55	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0050	1		10/17/14 20:55	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0050	1		10/17/14 20:55	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/17/14 20:55	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/17/14 20:55	10061-02-6	
Ethylbenzene	ND	mg/L	0.0050	1		10/17/14 20:55	100-41-4	
Ethyl methacrylate	ND	mg/L	0.10	1		10/17/14 20:55	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/L	0.0050	1		10/17/14 20:55	87-68-3	
n-Hexane	ND	mg/L	0.0050	1		10/17/14 20:55	110-54-3	
2-Hexanone	ND	mg/L	0.025	1		10/17/14 20:55	591-78-6	
Iodomethane	ND	mg/L	0.010	1		10/17/14 20:55	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/L	0.0050	1		10/17/14 20:55	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105429

Sample: GW-PW-101514		Lab ID: 50105429003	Collected: 10/15/14 13:15	Received: 10/16/14 10:28	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/17/14 20:55	99-87-6	
Methylene Chloride	ND mg/L	U	0.0050	1		10/17/14 20:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.025	1		10/17/14 20:55	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.0040	1		10/17/14 20:55	1634-04-4	
Naphthalene	ND mg/L	U	0.0050	1		10/17/14 20:55	91-20-3	
n-Propylbenzene	ND mg/L	U	0.0050	1		10/17/14 20:55	103-65-1	
Styrene	ND mg/L	U	0.0050	1		10/17/14 20:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/17/14 20:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/17/14 20:55	79-34-5	
Tetrachloroethene	0.028 mg/L	U	0.0050	1		10/17/14 20:55	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/20/14 15:38	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.0050	1		10/17/14 20:55	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.0050	1		10/17/14 20:55	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.0050	1		10/17/14 20:55	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.0050	1		10/17/14 20:55	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/17/14 20:55	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.0050	1		10/17/14 20:55	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.0050	1		10/17/14 20:55	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.0050	1		10/17/14 20:55	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.0050	1		10/17/14 20:55	108-67-8	
Vinyl acetate	ND mg/L	U	0.050	1		10/17/14 20:55	108-05-4	
Vinyl chloride	ND mg/L	U	0.0020	1		10/17/14 20:55	75-01-4	
Xylene (Total)	ND mg/L	U	0.010	1		10/17/14 20:55	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102 %		79-116	1		10/17/14 20:55	1868-53-7	
4-Bromofluorobenzene (S)	99 %		80-114	1		10/17/14 20:55	460-00-4	
Toluene-d8 (S)	104 %		81-110	1		10/17/14 20:55	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105429

Sample: TB-101514-01		Lab ID: 50105429001	Collected: 10/15/14 07:00	Received: 10/16/14 10:28	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/17/14 18:44	67-64-1	
Acrolein	ND mg/L		0.050	1		10/17/14 18:44	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/17/14 18:44	107-13-1	
Benzene	ND mg/L		0.0050	1		10/17/14 18:44	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/17/14 18:44	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/17/14 18:44	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/17/14 18:44	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/17/14 18:44	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/17/14 18:44	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/17/14 18:44	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/17/14 18:44	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/17/14 18:44	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/17/14 18:44	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/17/14 18:44	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/17/14 18:44	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/17/14 18:44	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/17/14 18:44	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/17/14 18:44	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/17/14 18:44	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 18:44	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 18:44	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/17/14 18:44	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/17/14 18:44	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/17/14 18:44	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 18:44	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 18:44	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 18:44	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/17/14 18:44	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/17/14 18:44	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/17/14 18:44	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/17/14 18:44	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/17/14 18:44	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 18:44	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 18:44	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 18:44	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/17/14 18:44	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 18:44	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/17/14 18:44	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 18:44	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 18:44	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/17/14 18:44	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/17/14 18:44	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/17/14 18:44	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/17/14 18:44	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/17/14 18:44	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/17/14 18:44	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/17/14 18:44	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105429

Sample: TB-101514-01	Lab ID: 50105429001	Collected: 10/15/14 07:00	Received: 10/16/14 10:28	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L		0.0050	1		10/17/14 18:44	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/17/14 18:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/17/14 18:44	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/17/14 18:44	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/17/14 18:44	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/17/14 18:44	103-65-1	
Styrene	ND mg/L		0.0050	1		10/17/14 18:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/17/14 18:44	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/17/14 18:44	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/17/14 18:44	127-18-4	
Toluene	ND mg/L		0.0050	1		10/17/14 18:44	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/17/14 18:44	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/17/14 18:44	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/17/14 18:44	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		10/17/14 18:44	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		10/17/14 18:44	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/17/14 18:44	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/17/14 18:44	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/17/14 18:44	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/17/14 18:44	108-67-8	
Vinyl acetate	ND mg/L	0.050	1		10/17/14 18:44	108-05-4		
Vinyl chloride	ND mg/L	0.0020	1		10/17/14 18:44	75-01-4		
Xylene (Total)	ND mg/L	0.010	1		10/17/14 18:44	1330-20-7		
Surrogates								
Dibromofluoromethane (S)	104 %		79-116	1		10/17/14 18:44	1868-53-7	
4-Bromofluorobenzene (S)	97 %		80-114	1		10/17/14 18:44	460-00-4	
Toluene-d8 (S)	103 %		81-110	1		10/17/14 18:44	2037-26-5	

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DATA VALIDATION CHECKLIST – STAGE 4

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Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/15/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	50105481	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – SW-846 Method 8260B		
Samples	GW-MW-3-101614; GW-MW-4-101614; GW-MW-EPA-9-101614; and GW-MW-EPA-14-101614		
Field Blanks	RB-101614-01 and TB-101614-01		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
	Cooler received at 0.5 degrees Celsius – no action (samples received intact and not frozen)

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 2 of 5)

Initial Calibration:

Within Criteria	Exceedance/Notes
	RRF exceeded criteria for 1,1,2-trichloroethane – flag “R”

Continuing Calibration:

Within Criteria	Exceedance/Notes
X	

Calibration Verification:

Within Criteria	Exceedance/Notes
X	

Method blanks:

Within Criteria	Exceedance/Notes
X	

Field blanks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
X	

MS/MSD:

Within Criteria	Exceedance/Notes
	MS/MSD performed for data package was not from site – not evaluated

Field duplicates:

Within Criteria	Exceedance/Notes
	No field duplicates included in this data package.

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
X	Note: abbreviated list of analytes was spiked

Sample dilutions:

Within Criteria	Exceedance/Notes
	20x: tetrachloroethene for GW-MW-4-101614 and GW-MW-EPA-14-101614



DATA VALIDATION CHECKLIST – STAGE 4

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Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None were required

Internal Standards:

Within Criteria	Exceedance/Notes
X	

Target analyte identification:

Within Criteria	Exceedance/Notes
X	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action

System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: GW-MW-3-101614		Lab ID: 50105481003	Collected: 10/16/14 11:30	Received: 10/17/14 10:13	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/17/14 23:40	67-64-1	
Acrolein	ND mg/L		0.050	1		10/17/14 23:40	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/17/14 23:40	107-13-1	
Benzene	ND mg/L		0.0050	1		10/17/14 23:40	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/17/14 23:40	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/17/14 23:40	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/17/14 23:40	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/17/14 23:40	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/17/14 23:40	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/17/14 23:40	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/17/14 23:40	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/17/14 23:40	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/17/14 23:40	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/17/14 23:40	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/17/14 23:40	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/17/14 23:40	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/17/14 23:40	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/17/14 23:40	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/17/14 23:40	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 23:40	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 23:40	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/17/14 23:40	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/17/14 23:40	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/17/14 23:40	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 23:40	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 23:40	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 23:40	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/17/14 23:40	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/17/14 23:40	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/17/14 23:40	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/17/14 23:40	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/17/14 23:40	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 23:40	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 23:40	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 23:40	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/17/14 23:40	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 23:40	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/17/14 23:40	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 23:40	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 23:40	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/17/14 23:40	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/17/14 23:40	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/17/14 23:40	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/17/14 23:40	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/17/14 23:40	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/17/14 23:40	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/17/14 23:40	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: GW-MW-3-101614		Lab ID: 50105481003	Collected: 10/16/14 11:30	Received: 10/17/14 10:13	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/17/14 23:40	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/17/14 23:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/17/14 23:40	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/17/14 23:40	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/17/14 23:40	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/17/14 23:40	103-65-1	
Styrene	ND mg/L		0.0050	1		10/17/14 23:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/17/14 23:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/17/14 23:40	79-34-5	
Tetrachloroethene	0.065 mg/L		0.0050	1		10/17/14 23:40	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/17/14 23:40	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/17/14 23:40	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/17/14 23:40	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/17/14 23:40	71-55-6	
1,1,2-Trichloroethane	ND mg/L	R	0.0050	1		10/17/14 23:40	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/17/14 23:40	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/17/14 23:40	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/17/14 23:40	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/17/14 23:40	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/17/14 23:40	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/17/14 23:40	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/17/14 23:40	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/17/14 23:40	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99 %		79-116	1		10/17/14 23:40	1868-53-7	
4-Bromofluorobenzene (S)	100 %		80-114	1		10/17/14 23:40	460-00-4	
Toluene-d8 (S)	106 %		81-110	1		10/17/14 23:40	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105481

Sample: GW-MW-4-101614		Lab ID: 50105481002	Collected: 10/16/14 09:45	Received: 10/17/14 10:13	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		10/17/14 23:07	67-64-1	
Acrolein	ND mg/L		0.050	1		10/17/14 23:07	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/17/14 23:07	107-13-1	
Benzene	ND mg/L		0.0050	1		10/17/14 23:07	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/17/14 23:07	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/17/14 23:07	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/17/14 23:07	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/17/14 23:07	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/17/14 23:07	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/17/14 23:07	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/17/14 23:07	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/17/14 23:07	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/17/14 23:07	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/17/14 23:07	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/17/14 23:07	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/17/14 23:07	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/17/14 23:07	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/17/14 23:07	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/17/14 23:07	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 23:07	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/17/14 23:07	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/17/14 23:07	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/17/14 23:07	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/17/14 23:07	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 23:07	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 23:07	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/17/14 23:07	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/17/14 23:07	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/17/14 23:07	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/17/14 23:07	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/17/14 23:07	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/17/14 23:07	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 23:07	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/17/14 23:07	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 23:07	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/17/14 23:07	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/17/14 23:07	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/17/14 23:07	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 23:07	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/17/14 23:07	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/17/14 23:07	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/17/14 23:07	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/17/14 23:07	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/17/14 23:07	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/17/14 23:07	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/17/14 23:07	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/17/14 23:07	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: GW-MW-4-101614		Lab ID: 50105481002	Collected: 10/16/14 09:45	Received: 10/17/14 10:13	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/17/14 23:07	99-87-6	
Methylene Chloride	ND mg/L	U	0.0050	1		10/17/14 23:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.025	1		10/17/14 23:07	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.0040	1		10/17/14 23:07	1634-04-4	
Naphthalene	ND mg/L	U	0.0050	1		10/17/14 23:07	91-20-3	
n-Propylbenzene	ND mg/L	U	0.0050	1		10/17/14 23:07	103-65-1	
Styrene	ND mg/L	U	0.0050	1		10/17/14 23:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/17/14 23:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/17/14 23:07	79-34-5	
Tetrachloroethene	1.6 mg/L		0.10	20		10/20/14 17:16	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/17/14 23:07	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.0050	1		10/17/14 23:07	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.0050	1		10/17/14 23:07	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.0050	1		10/17/14 23:07	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.0050	1		10/17/14 23:07	79-00-5	
Trichloroethene	0.024 mg/L		0.0050	1		10/17/14 23:07	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.0050	1		10/17/14 23:07	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.0050	1		10/17/14 23:07	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.0050	1		10/17/14 23:07	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.0050	1		10/17/14 23:07	108-67-8	
Vinyl acetate	ND mg/L	U	0.050	1		10/17/14 23:07	108-05-4	
Vinyl chloride	ND mg/L	U	0.0020	1		10/17/14 23:07	75-01-4	
Xylene (Total)	ND mg/L	U	0.010	1		10/17/14 23:07	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	99 %		79-116	1		10/17/14 23:07	1868-53-7	
4-Bromofluorobenzene (S)	98 %		80-114	1		10/17/14 23:07	460-00-4	
Toluene-d8 (S)	105 %		81-110	1		10/17/14 23:07	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: GW-MW-EPA-9-101614		Lab ID: 50105481005	Collected: 10/16/14 15:05	Received: 10/17/14 10:13	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND	mg/L	0.10	1		10/18/14 00:45	67-64-1	
Acrolein	ND	mg/L	0.050	1		10/18/14 00:45	107-02-8	
Acrylonitrile	ND	mg/L	0.10	1		10/18/14 00:45	107-13-1	
Benzene	ND	mg/L	0.0050	1		10/18/14 00:45	71-43-2	
Bromobenzene	ND	mg/L	0.0050	1		10/18/14 00:45	108-86-1	
Bromochloromethane	ND	mg/L	0.0050	1		10/18/14 00:45	74-97-5	
Bromodichloromethane	ND	mg/L	0.0050	1		10/18/14 00:45	75-27-4	
Bromoform	ND	mg/L	0.0050	1		10/18/14 00:45	75-25-2	
Bromomethane	ND	mg/L	0.0050	1		10/18/14 00:45	74-83-9	
2-Butanone (MEK)	ND	mg/L	0.025	1		10/18/14 00:45	78-93-3	
n-Butylbenzene	ND	mg/L	0.0050	1		10/18/14 00:45	104-51-8	
sec-Butylbenzene	ND	mg/L	0.0050	1		10/18/14 00:45	135-98-8	
tert-Butylbenzene	ND	mg/L	0.0050	1		10/18/14 00:45	98-06-6	
Carbon disulfide	ND	mg/L	0.010	1		10/18/14 00:45	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0050	1		10/18/14 00:45	56-23-5	
Chlorobenzene	ND	mg/L	0.0050	1		10/18/14 00:45	108-90-7	
Chloroethane	ND	mg/L	0.0050	1		10/18/14 00:45	75-00-3	
Chloroform	ND	mg/L	0.0050	1		10/18/14 00:45	67-66-3	
Chloromethane	ND	mg/L	0.0050	1		10/18/14 00:45	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0050	1		10/18/14 00:45	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0050	1		10/18/14 00:45	106-43-4	
Dibromochloromethane	ND	mg/L	0.0050	1		10/18/14 00:45	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0050	1		10/18/14 00:45	106-93-4	
Dibromomethane	ND	mg/L	0.0050	1		10/18/14 00:45	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0050	1		10/18/14 00:45	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0050	1		10/18/14 00:45	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0050	1		10/18/14 00:45	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.10	1		10/18/14 00:45	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0050	1		10/18/14 00:45	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0050	1		10/18/14 00:45	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0050	1		10/18/14 00:45	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0050	1		10/18/14 00:45	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/18/14 00:45	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/18/14 00:45	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0050	1		10/18/14 00:45	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0050	1		10/18/14 00:45	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0050	1		10/18/14 00:45	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0050	1		10/18/14 00:45	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/18/14 00:45	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/18/14 00:45	10061-02-6	
Ethylbenzene	ND	mg/L	0.0050	1		10/18/14 00:45	100-41-4	
Ethyl methacrylate	ND	mg/L	0.10	1		10/18/14 00:45	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/L	0.0050	1		10/18/14 00:45	87-68-3	
n-Hexane	ND	mg/L	0.0050	1		10/18/14 00:45	110-54-3	
2-Hexanone	ND	mg/L	0.025	1		10/18/14 00:45	591-78-6	
Iodomethane	ND	mg/L	0.010	1		10/18/14 00:45	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/L	0.0050	1		10/18/14 00:45	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: **GW-MW-EPA-9-101614** Lab ID: **50105481005** Collected: 10/16/14 15:05 Received: 10/17/14 10:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/18/14 00:45	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/18/14 00:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/18/14 00:45	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/18/14 00:45	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/18/14 00:45	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/18/14 00:45	103-65-1	
Styrene	ND mg/L		0.0050	1		10/18/14 00:45	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 00:45	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 00:45	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/18/14 00:45	127-18-4	
Toluene	ND mg/L		0.0050	1		10/18/14 00:45	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 00:45	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 00:45	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/18/14 00:45	71-55-6	
1,1,2-Trichloroethane	ND mg/L	RU	0.0050	1		10/18/14 00:45	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/18/14 00:45	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/18/14 00:45	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/18/14 00:45	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 00:45	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 00:45	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/18/14 00:45	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/18/14 00:45	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/18/14 00:45	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100 %		79-116	1		10/18/14 00:45	1868-53-7	
4-Bromofluorobenzene (S)	100 %		80-114	1		10/18/14 00:45	460-00-4	
Toluene-d8 (S)	105 %		81-110	1		10/18/14 00:45	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: GW-MW-EPA-14-101614 Lab ID: 50105481004 Collected: 10/16/14 12:15 Received: 10/17/14 10:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	0.10	1			10/18/14 00:13	67-64-1	
Acrolein	ND mg/L	0.050	1			10/18/14 00:13	107-02-8	
Acrylonitrile	ND mg/L	0.10	1			10/18/14 00:13	107-13-1	
Benzene	ND mg/L	0.0050	1			10/18/14 00:13	71-43-2	
Bromobenzene	ND mg/L	0.0050	1			10/18/14 00:13	108-86-1	
Bromochloromethane	ND mg/L	0.0050	1			10/18/14 00:13	74-97-5	
Bromodichloromethane	ND mg/L	0.0050	1			10/18/14 00:13	75-27-4	
Bromoform	ND mg/L	0.0050	1			10/18/14 00:13	75-25-2	
Bromomethane	ND mg/L	0.0050	1			10/18/14 00:13	74-83-9	
2-Butanone (MEK)	ND mg/L	0.025	1			10/18/14 00:13	78-93-3	
n-Butylbenzene	ND mg/L	0.0050	1			10/18/14 00:13	104-51-8	
sec-Butylbenzene	ND mg/L	0.0050	1			10/18/14 00:13	135-98-8	
tert-Butylbenzene	ND mg/L	0.0050	1			10/18/14 00:13	98-06-6	
Carbon disulfide	ND mg/L	0.010	1			10/18/14 00:13	75-15-0	
Carbon tetrachloride	ND mg/L	0.0050	1			10/18/14 00:13	56-23-5	
Chlorobenzene	ND mg/L	0.0050	1			10/18/14 00:13	108-90-7	
Chloroethane	ND mg/L	0.0050	1			10/18/14 00:13	75-00-3	
Chloroform	ND mg/L	0.0050	1			10/18/14 00:13	67-66-3	
Chloromethane	ND mg/L	0.0050	1			10/18/14 00:13	74-87-3	
2-Chlorotoluene	ND mg/L	0.0050	1			10/18/14 00:13	95-49-8	
4-Chlorotoluene	ND mg/L	0.0050	1			10/18/14 00:13	106-43-4	
Dibromochloromethane	ND mg/L	0.0050	1			10/18/14 00:13	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L	0.0050	1			10/18/14 00:13	106-93-4	
Dibromomethane	ND mg/L	0.0050	1			10/18/14 00:13	74-95-3	
1,2-Dichlorobenzene	ND mg/L	0.0050	1			10/18/14 00:13	95-50-1	
1,3-Dichlorobenzene	ND mg/L	0.0050	1			10/18/14 00:13	541-73-1	
1,4-Dichlorobenzene	ND mg/L	0.0050	1			10/18/14 00:13	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L	0.10	1			10/18/14 00:13	110-57-6	
Dichlorodifluoromethane	ND mg/L	0.0050	1			10/18/14 00:13	75-71-8	
1,1-Dichloroethane	ND mg/L	0.0050	1			10/18/14 00:13	75-34-3	
1,2-Dichloroethane	ND mg/L	0.0050	1			10/18/14 00:13	107-06-2	
1,1-Dichloroethene	ND mg/L	0.0050	1			10/18/14 00:13	75-35-4	
cis-1,2-Dichloroethene	ND mg/L	0.0050	1			10/18/14 00:13	156-59-2	
trans-1,2-Dichloroethene	ND mg/L	0.0050	1			10/18/14 00:13	156-60-5	
1,2-Dichloropropane	ND mg/L	0.0050	1			10/18/14 00:13	78-87-5	
1,3-Dichloropropane	ND mg/L	0.0050	1			10/18/14 00:13	142-28-9	
2,2-Dichloropropane	ND mg/L	0.0050	1			10/18/14 00:13	594-20-7	
1,1-Dichloropropene	ND mg/L	0.0050	1			10/18/14 00:13	563-58-6	
cis-1,3-Dichloropropene	ND mg/L	0.0050	1			10/18/14 00:13	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L	0.0050	1			10/18/14 00:13	10061-02-6	
Ethylbenzene	ND mg/L	0.0050	1			10/18/14 00:13	100-41-4	
Ethyl methacrylate	ND mg/L	0.10	1			10/18/14 00:13	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	0.0050	1			10/18/14 00:13	87-68-3	
n-Hexane	ND mg/L	0.0050	1			10/18/14 00:13	110-54-3	
2-Hexanone	ND mg/L	0.025	1			10/18/14 00:13	591-78-6	
Iodomethane	ND mg/L	0.010	1			10/18/14 00:13	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L	0.0050	1			10/18/14 00:13	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: **GW-MW-EPA-14-101614** Lab ID: **50105481004** Collected: 10/16/14 12:15 Received: 10/17/14 10:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/18/14 00:13	99-87-6	
Methylene Chloride	ND mg/L	U	0.0050	1		10/18/14 00:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L	U	0.025	1		10/18/14 00:13	108-10-1	
Methyl-tert-butyl ether	ND mg/L	U	0.0040	1		10/18/14 00:13	1634-04-4	
Naphthalene	ND mg/L	U	0.0050	1		10/18/14 00:13	91-20-3	
n-Propylbenzene	ND mg/L	U	0.0050	1		10/18/14 00:13	103-65-1	
Styrene	ND mg/L	U	0.0050	1		10/18/14 00:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/18/14 00:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L	U	0.0050	1		10/18/14 00:13	79-34-5	
Tetrachloroethene	2.5 mg/L	U	0.10	20		10/20/14 17:49	127-18-4	
Toluene	ND mg/L	U	0.0050	1		10/18/14 00:13	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L	U	0.0050	1		10/18/14 00:13	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L	U	0.0050	1		10/18/14 00:13	120-82-1	
1,1,1-Trichloroethane	ND mg/L	U	0.0050	1		10/18/14 00:13	71-55-6	
1,1,2-Trichloroethane	ND mg/L	U	0.0050	1		10/18/14 00:13	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/18/14 00:13	79-01-6	
Trichlorofluoromethane	ND mg/L	U	0.0050	1		10/18/14 00:13	75-69-4	
1,2,3-Trichloropropane	ND mg/L	U	0.0050	1		10/18/14 00:13	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L	U	0.0050	1		10/18/14 00:13	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L	U	0.0050	1		10/18/14 00:13	108-67-8	
Vinyl acetate	ND mg/L	U	0.050	1		10/18/14 00:13	108-05-4	
Vinyl chloride	ND mg/L	U	0.0020	1		10/18/14 00:13	75-01-4	
Xylene (Total)	ND mg/L	U	0.010	1		10/18/14 00:13	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100 %		79-116	1		10/18/14 00:13	1868-53-7	
4-Bromofluorobenzene (S)	99 %		80-114	1		10/18/14 00:13	460-00-4	
Toluene-d8 (S)	104 %		81-110	1		10/18/14 00:13	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134

Pace Project No.: 50105481

Sample: RB-101614-01 Lab ID: 50105481006 Collected: 10/16/14 15:45 Received: 10/17/14 10:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L		0.10	1		10/18/14 01:18	67-64-1	
Acrolein	ND mg/L		0.050	1		10/18/14 01:18	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		10/18/14 01:18	107-13-1	
Benzene	ND mg/L		0.0050	1		10/18/14 01:18	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		10/18/14 01:18	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		10/18/14 01:18	74-97-5	
Bromodichloromethane	ND mg/L		0.0050	1		10/18/14 01:18	75-27-4	
Bromoform	ND mg/L		0.0050	1		10/18/14 01:18	75-25-2	
Bromomethane	ND mg/L		0.0050	1		10/18/14 01:18	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		10/18/14 01:18	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		10/18/14 01:18	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		10/18/14 01:18	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		10/18/14 01:18	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		10/18/14 01:18	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		10/18/14 01:18	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		10/18/14 01:18	108-90-7	
Chloroethane	ND mg/L		0.0050	1		10/18/14 01:18	75-00-3	
Chloroform	ND mg/L		0.0050	1		10/18/14 01:18	67-66-3	
Chloromethane	ND mg/L		0.0050	1		10/18/14 01:18	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 01:18	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		10/18/14 01:18	106-43-4	
Dibromochloromethane	ND mg/L		0.0050	1		10/18/14 01:18	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L		0.0050	1		10/18/14 01:18	106-93-4	
Dibromomethane	ND mg/L		0.0050	1		10/18/14 01:18	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 01:18	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 01:18	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		10/18/14 01:18	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		10/18/14 01:18	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		10/18/14 01:18	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		10/18/14 01:18	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		10/18/14 01:18	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		10/18/14 01:18	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 01:18	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		10/18/14 01:18	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 01:18	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		10/18/14 01:18	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		10/18/14 01:18	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		10/18/14 01:18	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 01:18	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		10/18/14 01:18	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		10/18/14 01:18	100-41-4	
Ethyl methacrylate	ND mg/L		0.10	1		10/18/14 01:18	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L		0.0050	1		10/18/14 01:18	87-68-3	
n-Hexane	ND mg/L		0.0050	1		10/18/14 01:18	110-54-3	
2-Hexanone	ND mg/L		0.025	1		10/18/14 01:18	591-78-6	
Iodomethane	ND mg/L		0.010	1		10/18/14 01:18	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		10/18/14 01:18	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: RB-101614-01	Lab ID: 50105481006	Collected: 10/16/14 15:45	Received: 10/17/14 10:13	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/18/14 01:18	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/18/14 01:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/18/14 01:18	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/18/14 01:18	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/18/14 01:18	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/18/14 01:18	103-65-1	
Styrene	ND mg/L		0.0050	1		10/18/14 01:18	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 01:18	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/18/14 01:18	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/18/14 01:18	127-18-4	
Toluene	ND mg/L		0.0050	1		10/18/14 01:18	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 01:18	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/18/14 01:18	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/18/14 01:18	71-55-6	
1,1,2-Trichloroethane	ND mg/L	R	0.0050	1		10/18/14 01:18	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/18/14 01:18	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/18/14 01:18	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/18/14 01:18	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 01:18	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/18/14 01:18	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/18/14 01:18	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/18/14 01:18	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/18/14 01:18	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102 %		79-116	1		10/18/14 01:18	1868-53-7	
4-Bromofluorobenzene (S)	99 %		80-114	1		10/18/14 01:18	460-00-4	
Toluene-d8 (S)	104 %		81-110	1		10/18/14 01:18	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: TB-101614-01 Lab ID: 50105481001 Collected: 10/16/14 07:00 Received: 10/17/14 10:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND	mg/L	0.10	1		10/17/14 22:34	67-64-1	
Acrolein	ND	mg/L	0.050	1		10/17/14 22:34	107-02-8	
Acrylonitrile	ND	mg/L	0.10	1		10/17/14 22:34	107-13-1	
Benzene	ND	mg/L	0.0050	1		10/17/14 22:34	71-43-2	
Bromobenzene	ND	mg/L	0.0050	1		10/17/14 22:34	108-86-1	
Bromochloromethane	ND	mg/L	0.0050	1		10/17/14 22:34	74-97-5	
Bromodichloromethane	ND	mg/L	0.0050	1		10/17/14 22:34	75-27-4	
Bromoform	ND	mg/L	0.0050	1		10/17/14 22:34	75-25-2	
Bromomethane	ND	mg/L	0.0050	1		10/17/14 22:34	74-83-9	
2-Butanone (MEK)	ND	mg/L	0.025	1		10/17/14 22:34	78-93-3	
n-Butylbenzene	ND	mg/L	0.0050	1		10/17/14 22:34	104-51-8	
sec-Butylbenzene	ND	mg/L	0.0050	1		10/17/14 22:34	135-98-8	
tert-Butylbenzene	ND	mg/L	0.0050	1		10/17/14 22:34	98-06-6	
Carbon disulfide	ND	mg/L	0.010	1		10/17/14 22:34	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0050	1		10/17/14 22:34	56-23-5	
Chlorobenzene	ND	mg/L	0.0050	1		10/17/14 22:34	108-90-7	
Chloroethane	ND	mg/L	0.0050	1		10/17/14 22:34	75-00-3	
Chloroform	ND	mg/L	0.0050	1		10/17/14 22:34	67-66-3	
Chloromethane	ND	mg/L	0.0050	1		10/17/14 22:34	74-87-3	
2-Chlorotoluene	ND	mg/L	0.0050	1		10/17/14 22:34	95-49-8	
4-Chlorotoluene	ND	mg/L	0.0050	1		10/17/14 22:34	106-43-4	
Dibromochloromethane	ND	mg/L	0.0050	1		10/17/14 22:34	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0050	1		10/17/14 22:34	106-93-4	
Dibromomethane	ND	mg/L	0.0050	1		10/17/14 22:34	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0050	1		10/17/14 22:34	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0050	1		10/17/14 22:34	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0050	1		10/17/14 22:34	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.10	1		10/17/14 22:34	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0050	1		10/17/14 22:34	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0050	1		10/17/14 22:34	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0050	1		10/17/14 22:34	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0050	1		10/17/14 22:34	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/17/14 22:34	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0050	1		10/17/14 22:34	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0050	1		10/17/14 22:34	78-87-5	
1,3-Dichloropropane	ND	mg/L	0.0050	1		10/17/14 22:34	142-28-9	
2,2-Dichloropropane	ND	mg/L	0.0050	1		10/17/14 22:34	594-20-7	
1,1-Dichloropropene	ND	mg/L	0.0050	1		10/17/14 22:34	563-58-6	
cis-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/17/14 22:34	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0050	1		10/17/14 22:34	10061-02-6	
Ethylbenzene	ND	mg/L	0.0050	1		10/17/14 22:34	100-41-4	
Ethyl methacrylate	ND	mg/L	0.10	1		10/17/14 22:34	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/L	0.0050	1		10/17/14 22:34	87-68-3	
n-Hexane	ND	mg/L	0.0050	1		10/17/14 22:34	110-54-3	
2-Hexanone	ND	mg/L	0.025	1		10/17/14 22:34	591-78-6	
Iodomethane	ND	mg/L	0.010	1		10/17/14 22:34	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/L	0.0050	1		10/17/14 22:34	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike VOC Site/30281-134
Pace Project No.: 50105481

Sample: TB-101614-01 Lab ID: 50105481001 Collected: 10/16/14 07:00 Received: 10/17/14 10:13 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		10/17/14 22:34	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		10/17/14 22:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		10/17/14 22:34	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		10/17/14 22:34	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		10/17/14 22:34	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		10/17/14 22:34	103-65-1	
Styrene	ND mg/L		0.0050	1		10/17/14 22:34	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		10/17/14 22:34	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		10/17/14 22:34	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		10/17/14 22:34	127-18-4	
Toluene	ND mg/L		0.0050	1		10/20/14 16:44	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		10/17/14 22:34	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		10/17/14 22:34	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		10/17/14 22:34	71-55-6	
1,1,2-Trichloroethane	ND mg/L	R	0.0050	1		10/17/14 22:34	79-00-5	
Trichloroethene	ND mg/L	U	0.0050	1		10/17/14 22:34	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		10/17/14 22:34	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		10/17/14 22:34	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		10/17/14 22:34	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		10/17/14 22:34	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		10/17/14 22:34	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		10/17/14 22:34	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		10/17/14 22:34	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100 %		79-116	1		10/17/14 22:34	1868-53-7	
4-Bromofluorobenzene (S)	102 %		80-114	1		10/17/14 22:34	460-00-4	
Toluene-d8 (S)	105 %		81-110	1		10/17/14 22:34	2037-26-5	

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DATA VALIDATION CHECKLIST – STAGE 4

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Site Name	Valley Pike VOC Site	Project No.	0001-1404-011
Data Reviewer (signature and date)	<i>Jessica A. Vickers</i> 01/16/2015	Technical Reviewer (signature and date)	
Laboratory Report No.	50106269	Laboratory	Pace - Indianapolis
Analyses	Volatile Organic Compounds (VOCs) – SW-846 Method 8260B		
Samples	GW-MW-1-103014		
Field Blanks	TB-103014-01		

This checklist summarizes the Stage 4 validation performed on the subject laboratory report, in accordance with the Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (August 2014) data validation guidance document, as well as the above referenced methods.

Data completeness:

Within Criteria	Exceedance/Notes
X	

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
X	

Instrument Performance Checks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Initial Calibration:

Within Criteria	Exceedance/Notes
	RRF exceeded criteria for bromodichloromethane; 1,1,2-trichloroethane; and 1,2-dibromoethane – flag “R”

Continuing Calibration:

Within Criteria	Exceedance/Notes
	%D exceeded criteria for dibromochloromethane – flag “UJ”

Calibration Verification:

Within Criteria	Exceedance/Notes
	%D exceeded criteria for ethyl methacrylate – flag “UJ”

Method blanks:

Within Criteria	Exceedance/Notes
X	

Field blanks:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

(Page 3 of 5)

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
X	

MS/MSD:

Within Criteria	Exceedance/Notes
X	Note: abbreviated list of analytes was spiked

Field duplicates:

Within Criteria	Exceedance/Notes
	No field duplicates included in this data package.

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
X	Note: abbreviated list of analytes was spiked

Sample dilutions:

Within Criteria	Exceedance/Notes
	None were required



DATA VALIDATION CHECKLIST – STAGE 4

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Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
	None were required

Internal Standards:

Within Criteria	Exceedance/Notes
X	

Target analyte identification:

Within Criteria	Exceedance/Notes
X	

Analyte quantitation and MDLs/RLs:

Within Criteria	Exceedance/Notes
	No indication that results were reported down to the MDL – no action

System performance and instrument stability:

Within Criteria	Exceedance/Notes
X	



DATA VALIDATION CHECKLIST – STAGE 4

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Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

ANALYTICAL RESULTS

Project: Valley Pike 30281-134

Pace Project No.: 50106269

Sample: GW-MW-1-103014 Lab ID: 50106269002 Collected: 10/30/14 11:55 Received: 10/31/14 09:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
Acetone	ND mg/L	U	0.10	1		11/01/14 05:19	67-64-1	
Acrolein	ND mg/L		0.050	1		11/01/14 05:19	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		11/01/14 05:19	107-13-1	
Benzene	ND mg/L		0.0050	1		11/01/14 05:19	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		11/01/14 05:19	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		11/01/14 05:19	74-97-5	
Bromodichloromethane	ND mg/L	R	0.0050	1		11/01/14 05:19	75-27-4	
Bromoform	ND mg/L	U	0.0050	1		11/01/14 05:19	75-25-2	
Bromomethane	ND mg/L		0.0050	1		11/01/14 05:19	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		11/01/14 05:19	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		11/01/14 05:19	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		11/01/14 05:19	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		11/01/14 05:19	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		11/01/14 05:19	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		11/01/14 05:19	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		11/01/14 05:19	108-90-7	
Chloroethane	ND mg/L		0.0050	1		11/01/14 05:19	75-00-3	
Chloroform	ND mg/L		0.0050	1		11/01/14 05:19	67-66-3	
Chloromethane	ND mg/L		0.0050	1		11/01/14 05:19	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		11/01/14 05:19	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		11/01/14 05:19	106-43-4	
Dibromochloromethane	ND mg/L	UJ	0.0050	1		11/01/14 05:19	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L	R	0.0050	1		11/01/14 05:19	106-93-4	
Dibromomethane	ND mg/L	U	0.0050	1		11/01/14 05:19	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		11/01/14 05:19	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		11/01/14 05:19	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		11/01/14 05:19	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		11/01/14 05:19	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		11/01/14 05:19	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		11/01/14 05:19	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		11/01/14 05:19	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		11/01/14 05:19	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		11/01/14 05:19	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		11/01/14 05:19	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		11/01/14 05:19	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		11/01/14 05:19	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		11/01/14 05:19	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		11/01/14 05:19	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		11/01/14 05:19	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		11/01/14 05:19	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		11/01/14 05:19	100-41-4	
Ethyl methacrylate	ND mg/L	UJ	0.10	1		11/01/14 05:19	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	U	0.0050	1		11/01/14 05:19	87-68-3	
n-Hexane	ND mg/L		0.0050	1		11/01/14 05:19	110-54-3	
2-Hexanone	ND mg/L		0.025	1		11/01/14 05:19	591-78-6	
Iodomethane	ND mg/L		0.010	1		11/01/14 05:19	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		11/01/14 05:19	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike 30281-134
Pace Project No.: 50106269

Sample: **GW-MW-1-103014** Lab ID: **50106269002** Collected: 10/30/14 11:55 Received: 10/31/14 09:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260								
p-Isopropyltoluene	ND mg/L	U	0.0050	1		11/01/14 05:19	99-87-6	
Methylene Chloride	ND mg/L		0.0050	1		11/01/14 05:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND mg/L		0.025	1		11/01/14 05:19	108-10-1	
Methyl-tert-butyl ether	ND mg/L		0.0040	1		11/01/14 05:19	1634-04-4	
Naphthalene	ND mg/L		0.0050	1		11/01/14 05:19	91-20-3	
n-Propylbenzene	ND mg/L		0.0050	1		11/01/14 05:19	103-65-1	
Styrene	ND mg/L		0.0050	1		11/01/14 05:19	100-42-5	
1,1,1,2-Tetrachloroethane	ND mg/L		0.0050	1		11/01/14 05:19	630-20-6	
1,1,2,2-Tetrachloroethane	ND mg/L		0.0050	1		11/01/14 05:19	79-34-5	
Tetrachloroethene	ND mg/L		0.0050	1		11/01/14 05:19	127-18-4	
Toluene	ND mg/L		0.0050	1		11/01/14 05:19	108-88-3	
1,2,3-Trichlorobenzene	ND mg/L		0.0050	1		11/01/14 05:19	87-61-6	
1,2,4-Trichlorobenzene	ND mg/L		0.0050	1		11/01/14 05:19	120-82-1	
1,1,1-Trichloroethane	ND mg/L		0.0050	1		11/01/14 05:19	71-55-6	
1,1,2-Trichloroethane	ND mg/L		0.0050	1		11/01/14 05:19	79-00-5	
Trichloroethene	ND mg/L		0.0050	1		11/01/14 05:19	79-01-6	
Trichlorofluoromethane	ND mg/L		0.0050	1		11/01/14 05:19	75-69-4	
1,2,3-Trichloropropane	ND mg/L		0.0050	1		11/01/14 05:19	96-18-4	
1,2,4-Trimethylbenzene	ND mg/L		0.0050	1		11/01/14 05:19	95-63-6	
1,3,5-Trimethylbenzene	ND mg/L		0.0050	1		11/01/14 05:19	108-67-8	
Vinyl acetate	ND mg/L		0.050	1		11/01/14 05:19	108-05-4	
Vinyl chloride	ND mg/L		0.0020	1		11/01/14 05:19	75-01-4	
Xylene (Total)	ND mg/L		0.010	1		11/01/14 05:19	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	101 %		79-116	1		11/01/14 05:19	1868-53-7	
4-Bromofluorobenzene (S)	96 %		80-114	1		11/01/14 05:19	460-00-4	
Toluene-d8 (S)	96 %		81-110	1		11/01/14 05:19	2037-26-5	

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ANALYTICAL RESULTS

Project: Valley Pike 30281-134
Pace Project No.: 50106269

Sample: TB-103014-01		Lab ID: 50106269001	Collected: 10/30/14 07:00	Received: 10/31/14 09:48	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
Acetone	ND mg/L	U	0.10	1		11/01/14 04:46	67-64-1	
Acrolein	ND mg/L		0.050	1		11/01/14 04:46	107-02-8	
Acrylonitrile	ND mg/L		0.10	1		11/01/14 04:46	107-13-1	
Benzene	ND mg/L		0.0050	1		11/01/14 04:46	71-43-2	
Bromobenzene	ND mg/L		0.0050	1		11/01/14 04:46	108-86-1	
Bromochloromethane	ND mg/L		0.0050	1		11/01/14 04:46	74-97-5	
Bromodichloromethane	ND mg/L	R	0.0050	1		11/01/14 04:46	75-27-4	
Bromoform	ND mg/L	U	0.0050	1		11/01/14 04:46	75-25-2	
Bromomethane	ND mg/L		0.0050	1		11/01/14 04:46	74-83-9	
2-Butanone (MEK)	ND mg/L		0.025	1		11/01/14 04:46	78-93-3	
n-Butylbenzene	ND mg/L		0.0050	1		11/01/14 04:46	104-51-8	
sec-Butylbenzene	ND mg/L		0.0050	1		11/01/14 04:46	135-98-8	
tert-Butylbenzene	ND mg/L		0.0050	1		11/01/14 04:46	98-06-6	
Carbon disulfide	ND mg/L		0.010	1		11/01/14 04:46	75-15-0	
Carbon tetrachloride	ND mg/L		0.0050	1		11/01/14 04:46	56-23-5	
Chlorobenzene	ND mg/L		0.0050	1		11/01/14 04:46	108-90-7	
Chloroethane	ND mg/L		0.0050	1		11/01/14 04:46	75-00-3	
Chloroform	ND mg/L		0.0050	1		11/01/14 04:46	67-66-3	
Chloromethane	ND mg/L		0.0050	1		11/01/14 04:46	74-87-3	
2-Chlorotoluene	ND mg/L		0.0050	1		11/01/14 04:46	95-49-8	
4-Chlorotoluene	ND mg/L		0.0050	1		11/01/14 04:46	106-43-4	
Dibromochloromethane	ND mg/L	U	0.0050	1		11/01/14 04:46	124-48-1	
1,2-Dibromoethane (EDB)	ND mg/L	R	0.0050	1		11/01/14 04:46	106-93-4	
Dibromomethane	ND mg/L	U	0.0050	1		11/01/14 04:46	74-95-3	
1,2-Dichlorobenzene	ND mg/L		0.0050	1		11/01/14 04:46	95-50-1	
1,3-Dichlorobenzene	ND mg/L		0.0050	1		11/01/14 04:46	541-73-1	
1,4-Dichlorobenzene	ND mg/L		0.0050	1		11/01/14 04:46	106-46-7	
trans-1,4-Dichloro-2-butene	ND mg/L		0.10	1		11/01/14 04:46	110-57-6	
Dichlorodifluoromethane	ND mg/L		0.0050	1		11/01/14 04:46	75-71-8	
1,1-Dichloroethane	ND mg/L		0.0050	1		11/01/14 04:46	75-34-3	
1,2-Dichloroethane	ND mg/L		0.0050	1		11/01/14 04:46	107-06-2	
1,1-Dichloroethene	ND mg/L		0.0050	1		11/01/14 04:46	75-35-4	
cis-1,2-Dichloroethene	ND mg/L		0.0050	1		11/01/14 04:46	156-59-2	
trans-1,2-Dichloroethene	ND mg/L		0.0050	1		11/01/14 04:46	156-60-5	
1,2-Dichloropropane	ND mg/L		0.0050	1		11/01/14 04:46	78-87-5	
1,3-Dichloropropane	ND mg/L		0.0050	1		11/01/14 04:46	142-28-9	
2,2-Dichloropropane	ND mg/L		0.0050	1		11/01/14 04:46	594-20-7	
1,1-Dichloropropene	ND mg/L		0.0050	1		11/01/14 04:46	563-58-6	
cis-1,3-Dichloropropene	ND mg/L		0.0050	1		11/01/14 04:46	10061-01-5	
trans-1,3-Dichloropropene	ND mg/L		0.0050	1		11/01/14 04:46	10061-02-6	
Ethylbenzene	ND mg/L		0.0050	1		11/01/14 04:46	100-41-4	
Ethyl methacrylate	ND mg/L	U	0.10	1		11/01/14 04:46	97-63-2	
Hexachloro-1,3-butadiene	ND mg/L	U	0.0050	1		11/01/14 04:46	87-68-3	
n-Hexane	ND mg/L		0.0050	1		11/01/14 04:46	110-54-3	
2-Hexanone	ND mg/L		0.025	1		11/01/14 04:46	591-78-6	
Iodomethane	ND mg/L		0.010	1		11/01/14 04:46	74-88-4	
Isopropylbenzene (Cumene)	ND mg/L		0.0050	1		11/01/14 04:46	98-82-8	

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ANALYTICAL RESULTS

Project: Valley Pike 30281-134
Pace Project No.: 50106269

Sample: TB-103014-01		Lab ID: 50106269001	Collected: 10/30/14 07:00	Received: 10/31/14 09:48	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260						
p-Isopropyltoluene	ND mg/L	U 						

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